

# **Productivity Measures for Selected Industries and Government Services**



U.S. Department of Labor  
Bureau of Labor Statistics  
July 1996

Bulletin 2480

332

# **Productivity Measures for Selected Industries and Government Services**



**U.S. Department of Labor**

**Robert B. Reich, Secretary**

**Bureau of Labor Statistics**

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For sale by the U.S. Government Printing Office  
Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9328  
ISBN 0-16-048744-7

## Preface

This annual bulletin updates indexes currently included in the industry productivity measurement program of the Bureau of Labor Statistics (BLS). It contains three sections. Parts I and II discuss labor productivity trends and multifactor productivity trends, respectively, for selected industries, and part III, labor productivity trends for selected government functions. Labor productivity measures for selected industries and government functions have been updated through 1994. Industry multifactor productivity measures include revisions through 1992.

This bulletin was prepared in the Bureau's Office of Productivity and Technology, under the direction of Kent Kunze, Chief of the Division of Industry Productivity and Technology Studies. Industry labor and multifactor productivity measures were prepared by Ziaul Ahmed, Robert Critchlow, Mark Dumas, Brian Friedman, J. Edwin Henneberger, Paul Kern, Virginia Klarquist, Alexander Kronemer, John Olsen, Craig Saunders, Mark Sieling, Lisa Usher, Clayton Waring, Patricia Wilcer, and James York, under the direction of John Duke and Mary Jablonski. Government productivity measures were prepared by Edwin Adelman, Gary Burdette,

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The data presented in this bulletin supersede the series published in Bulletin 2461, May 1995 and in the Bureau's news release, USDL 96-15, of January 30, 1996. The data in this bulletin are subject to future revision. A detailed description of the methods used to construct these indexes can be found in appendix A, "Methods and Data Sources," of this bulletin.

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Further information concerning the indexes covered in this bulletin can be obtained by writing to the Office of Productivity and Technology, Room 2150, Bureau of Labor Statistics, Washington, DC 20212-0001. Telephone: (202) 606-5618. World Wide Web: <http://stats.bls.gov>

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# Introduction

Measures of productivity reflect the relationship between the outputs of an industry or of the whole economy and the inputs expended to produce the outputs. Productivity statistics can be used to assess the economic performance of an industry or the whole economy. The productivity measures most often studied are labor and multifactor productivity. Labor productivity trends relate the changes in outputs to changes in labor inputs, while multifactor productivity trends relate changes in outputs to changes in several inputs, usually labor, capital, and other inputs.

This bulletin presents data on labor productivity trends in 178 manufacturing and nonmanufacturing industries, primarily at the 4-digit Standard Industrial Classification level. Measures for these industries are published on an annual basis. Each year new industries are added to those already published. This bulletin includes for the first time labor productivity indexes for housefurnishings, except curtains and draperies; fabricated plate work; and miscellaneous shopping goods stores. An article on the miscellaneous shopping goods stores industry was published in the October 1995 issue of the *Monthly Labor Review* (*MLR*), while an article on the housefurnishings industry appeared in the March 1996 *MLR*. Productivity in the fabricated plate work industry will be the topic of a forthcoming *MLR* article. Measures of multifactor productivity for 10 industries are also presented in this bulletin. Among them is a new multifactor productivity measure for refrigeration and heating equipment. An article for this industry is forthcoming in the *MLR*.

In the past, BLS has published a second set of labor productivity measures for three industries (SICs 101, 102, and 4011) that were calculated with alternative measures of output. These measures are no longer published, but are available upon request.

In July 1995, BLS adopted a new method for computing output indexes for its measures of industry labor productivity. Previously, output indexes had been computed using base-year employee-hour weights to aggregate products of the industry. In the new method, an index of industry output is developed by computing a weighted average of the growth rates of the various industry products between two time periods, with weights based on the products' shares in industry value of production in the two periods. For further discussion of the new method, see appendix A of this bulletin and "BLS Modernizes Industry Labor Productivity Program," in the July 1995 *Monthly Labor Review*. The new procedure was used to revise historical industry labor pro-

ductivity indexes, as well as to generate the latest productivity statistics. However, most of the revisions to long-term productivity trends were small.

Part I presents indexes of change in output per employee hour for each industry. Most of these measures have been updated to 1994. The industries being measured are not necessarily a representative cross-section of U.S. industries. The labor productivity measures describe the relationship between output in real terms and the labor time involved in production. Although the measures relate output to employment and employee hours, they do not measure the specific contributions of labor, capital, or any other factors of production. Rather, they reflect the joint effect of a number of interrelated influences, such as changes in technology, capital investment per worker, level of output, utilization of capacity, layout and flow of material, managerial skill, and skills and effort of the work force. Note that, occasionally, the year-to-year movements in productivity measures may be somewhat erratic, particularly in the smaller industries. The annual changes in an industry's productivity are based on sample data, which are likely to differ from data generated by a census of companies in the industry. As a result, long-term trends tend to be more reliable indicators of the performance of an industry than are the year-to-year changes.

Part II presents indexes of multifactor productivity which represent the change in output per unit of combined labor, capital and intermediate purchases inputs. Changes in capital relative to labor and changes in intermediate purchases relative to labor influence the movements in labor productivity. Indexes of multifactor productivity are not affected by these influences since changes in capital and intermediate purchases inputs are accounted for in the combined input measure. Because of Federal Government shutdowns and delays in the receipt of source data, the multifactor productivity indexes could not be extended beyond 1992 in time for inclusion in this bulletin; they will be updated to 1994 later this year and a report will be issued. There are some minor revisions to the output, hours, and productivity series appearing in part II compared to last year's bulletin; most of the output and hours series were revised slightly so they would be identical to the corresponding series in part I. See appendix A for more information.

Part III examines labor productivity indexes for selected government functions and services. Indexes for Federal Government services, measuring output per employee year, are constructed with data collected from a sample of agencies

and cover the fiscal years, 1967-94. Due to budget reductions, the productivity measurement program for the Federal sector has been terminated. The series published in this bulletin are the final data from this program. Like labor and multifactor productivity indexes for industries, indexes of output per employee year for Federal Government functions and services reflect the joint effect of a number of interrelated influences.

The Bureau of Labor Statistics also publishes indexes of

output per hour and multifactor productivity for the business sector and for the nonfarm business, manufacturing, and corporate sectors. These data are presented in several BLS publications, including "Productivity and Costs" (quarterly news release), and the *Monthly Labor Review*. Reports on individual industries and tables and output indicators for Federal Government functions are available from the Bureau of Labor Statistics on request.

# Part I. Labor Productivity Trends for Selected Industries

## Current trends

The Bureau of Labor Statistics currently maintains indexes of labor productivity (measured as output divided by employee hours) for 148 distinct industries. An additional 30 measures exist at higher levels of aggregation. For the purpose of describing recent and long-term trends in productivity, only the 148 nonduplicated industries are discussed. (All 178 industries are included in table 1.)

The 148 nonduplicated industries accounted for almost 40 percent of employment in the entire nonfarm business sector in 1994. Available data allowed 143 of the industry measures to be updated to 1994. Included among these are all of the Bureau's measured industries in mining, utilities, trade, and services and nearly all of those in manufacturing.

Data for the industries updated to 1994 indicate that 70 percent had productivity increases, the same as in the previous year. Underlying trends in output and hours between the two years were somewhat different; both output and hours grew in more of the industries in 1994. Output increased in 79 percent of the industries in 1994, after increasing in 72 percent in the prior year. In 1994, hours rose in 62 percent of the industries, whereas in 1993, 53 percent of the industries registered growth in hours.

In manufacturing, productivity gains were recorded among 69 percent of the industries updated to 1994, a small drop from the 72 percent that had productivity increases in 1993. Output actually rose in more industries in 1994: 76 percent of the industries had output growth in 1994 and 74 percent did so in 1993. Hours grew in 63 percent of the industries in 1994, while just over half had gains in 1993.

A number of large manufacturing industries had productivity increases in 1994. Labor productivity in the motor vehicles industry, which employs over 800,000 people, grew at a 3.0-percent rate. Steel production, with a workforce of 239,000, registered a 6.3-percent gain. Both of these industries had increases in output and hours in 1994.

In the trade sector, which includes some of the largest industries in the U.S. nonfarm business economy, the number of industries registering productivity gains rose from 60 percent in 1993 to 65 percent in 1994. The underlying trends in output and hours differed markedly between the two periods. In 1994, output grew in 90 percent of the industries and hours increased in 65 percent. In contrast, 65 percent of the industries experienced increases in output in

1993, with 75 percent recording increases in hours.

Eating and drinking places, the largest industry for which the Bureau has productivity data, recorded a productivity increase of 0.7 percent in 1994. Other large retail trade industries with productivity gains include: Radio, television, and computer stores (15.1 percent), department stores (3.3 percent), gasoline service stations (2.3 percent), and new and used car dealers (1.4 percent). All of these industries had rises in output, and with the exception of gasoline service stations, also had growth in hours.

All of the services industries showed increases in output per hour in 1994. Of this group, automotive repair shops posted the largest productivity gain: 7.6 percent. This followed a productivity increase of 0.3 percent for this industry in the previous year. Beauty shops (4.3 percent), hotels and motels (3.3 percent), and laundry, cleaning and garment services (2.0 percent) also witnessed productivity advances in 1994. These industries had productivity declines in the previous year. Underlying the growth in productivity in 1994 were advances in output in all of these industries. In 1993, output fell in laundry, cleaning, and garment services, and in beauty shops; the other industries, while posting output increases, did so at lower rates than in 1994. Hours grew at a low rate or were down in each of the services industries in 1994; in the previous year, hours rose in all but one services industry.

With the exception of gas utilities, all of the industries in the transportation, communications, and utilities sector updated to 1994 exhibited increases in labor productivity. The industries in this sector recording productivity growth in 1994 were electric utilities (5.9 percent), air transportation (1.8 percent), telephone communications (0.9 percent) and petroleum pipelines (0.7 percent). In the previous year, all of the industries registered productivity gains. The 4.5-percent decline in productivity in gas utilities was accompanied by a reduction in output. In 1993, all the industries had output advances.

In 1994, productivity increased in four of the five mining industries that are measured. Gains in productivity were recorded in the following mining industries: Crude petroleum and natural gas production (6.2 percent), copper mining (4.7 percent), nonmetallic minerals, except fuels (3.7 percent), and coal mining (3.4 percent). Productivity declined 5.4 percent in the iron mining industry, in spite of an increase in output. Output, in fact, increased throughout the

mining sector in 1994, while hours rose in over half of the industries. In 1993, productivity advanced in the same number of mining industries; however, output increased in fewer than half, while hours fell in all but one.

### Long-term trends, 1973-94

Productivity increased in 89 percent of the 139 industries that bridge the period 1973 to 1994. In these industries, rates of growth ranged from 0.1 to 10.3 percent per year. In the 1973-79 subperiod, 76 percent of these industries recorded an increase. Subsequently productivity growth recovered in the last two terms, 1979-90 and 1990-94, with 86 and 84 percent, respectively, showing gains (see chart 1). Long-term average annual rates of change in productivity and related indexes, for each industry, appear in tables 2-179 of this publication.

BLS publishes productivity measures that span the entire 1973-94 period for 107 separate industries in the manufacturing sector. Ninety-two percent of these achieved productivity gains from 1973 to 1994. In 63 of the 107 industries, the *rate of change* of productivity was greater in the 1979-90 period than during 1973-79. Fifty-eight industries in this group recorded higher productivity growth rates in the 1990-94 period compared to 1979-90. This shows an *acceleration* of productivity growth over the three periods in the measured industries.

Household audio and video equipment turned in an exceptional increase in labor productivity each year, 10.3 percent, on average, between 1973 and 1994—the highest of all the measured manufacturing industries. This long-term rate resulted from a potent combination of *decreasing* hours by 4.9 percent per year while *increasing* output at the same rate. This industry has also performed well in the subperiods, increasing output per hour by an annual average of 9.1 percent between 1990 and 1994, for example. New manufacturing techniques have permitted the reductions in hours, even as output increased.

Fabricated pipe and fittings had the largest decrease in productivity in the measured manufacturing sector from 1973 to 1994. Output per hour diminished 1.2 percent each year, on average, in the period.

Motor vehicles and equipment is one of the largest manufacturing industries in the United States, employing over 890,000 workers in 1994. From 1973 to 1994, output per hour improved at an average annual rate of 2.2 percent. Output increased an average of 2.0 percent over the long term.

In the retail trade sector, over 20 million people were on the job in 1994, and BLS industry productivity measures covered most of them. Of the 18 separate measured industries in this sector, 15 exhibited increases in output per hour from 1973 to 1994, while 3 showed declines. The performance of productivity growth in retail trade appeared to brighten between the beginning and end of this period. While six industries saw output per hour decrease in 1973-79, only four did in 1990-94. Moreover, 61 percent of the

measured industries in the sector recorded higher rates of productivity growth between 1990 and 1994 than they had between 1973 and 1979.

Eating and drinking places is the largest industry measured by BLS, employing over 7 million persons in 1994. Output per hour here fell by 0.6 percent each year, on average, from 1973 to 1979 and by 0.2 percent per year from 1979-90. The average annual rate of change was zero for 1990-94. In contrast, output grew in each of the periods for a 2.6-percent average annual increase from 1973-94.

Radio, television, and computer stores, which employed over 343,000 persons in 1994, has shown impressive and sustained gains in output per hour. From 1973 to 1994, labor productivity improved at an average annual rate of 6.8 percent. This was achieved by increasing output by 11.0 percent per year and hours by 4.0 percent per year, on average. In the last two periods, 1979-90 and 1990-94, output per hour rose at annual rates of 7.8 and 10.6 percent, respectively. The shift away from small stores to extensive chain outlets that take advantage of economies of scale has had a positive effect on labor productivity.

BLS has measures of labor productivity for 1973-94 covering five distinct industries in transportation, communications, and utilities. Productivity advanced in all but one of these industries in each subperiod.

Air transportation employed nearly 600,000 workers in 1994, and has had an average annual increase in employment of over 2 percent since 1973. From 1973 to 1994 labor productivity, measured by output per employee, expanded 3.2 percent annually and output grew by 5.6 percent. This industry is still maturing in a deregulated environment and has reduced costs and increased output (in part by filling higher percentages of available seats) in innovative ways.

Telephone communications increased output per hour by 5.7 percent from 1973 to 1994. (This percentage rate differed only somewhat in the subperiods, climbing 6.8 percent per year from 1973-79, and 4.6 percent per year from 1990-94.) On average, the overall rate resulted from an increase in output of 5.4 percent and a decrease in hours of 0.2 percent each year. New technology is clearly the prime agent in productivity increases in communications. Fiber optics, direct dialing, electronic operator systems and other technological advances have allowed fewer employees to handle many more diverse tasks.

BLS has measures of labor productivity in four distinct industries in the services sector. Within this group, hotels and motels employed the largest number of individuals in 1994, over 1.5 million. Throughout 1973-94 output per hour increased 0.3 percent each year, on average, in hotels and motels. A dramatic improvement occurred in the 1990-94 interval, with output per hour advancing by 3.5 percent annually. Growth in output has been robust for all periods in hotels and motels, growing 3.1 percent annually, on average, from 1973 to 1994. Among the specific factors leading to increases in output per hour was the use of computers in reservation systems.

In the services group during 1973-94, beauty shops experienced the highest average annual growth in output per hour, 0.7 percent. The rate of growth was basically unchanged in the three subperiods. Output growth reached its peak in the 1979-90 period with an average gain of 2.9 percent each year, but dropped back to a 1.7-percent rate from 1990 to 1994. Achieving further productivity gains in this industry may be difficult because of the need for direct interaction between employees and customers.

Of the five industry productivity measures in the mining sector, four had increases in labor productivity from 1973 to 1994. Copper mining achieved the greatest annual growth in output per hour, advancing 5.2 percent each year, on average, by expanding output 0.7 percent and contracting hours 4.3 percent. The average annual output per hour in crude petroleum and natural gas production decreased by 2.0 percent between 1973 and 1994. An annual decline in output of 1.1 percent, on average, and an annual increase in hours of 1.0 percent, on average, contributed to the drop.

### New Industry productivity measures

*Housefurnishings, except curtains and draperies (SIC 2392).* Following periods of decline, productivity in the housefurnishings industry advanced steadily after 1980, reflecting consumer demand, marketing strategies, and other factors. The industry comprises some 1,000 establishments dominated by a fairly small number of large firms. While the large firms account for the majority of industry production and employment, many of the small firms produce specialty items. The industry's most important products are bedroom and bathroom fabrics—bedsheets, pillowcases, comforters, bath towels, and other similar textile products.

Since the early 1980s, firms have been consolidating and restructuring their manufacturing processes, resulting in an industry with fewer, but larger, firms. New, more productive manufacturing equipment allowed firms to increase output more rapidly than employment, resulting in increased productivity.

Productivity in housefurnishings grew at an average annual rate of 1.5 percent between 1972 and 1994. The industry's productivity growth (as measured by the change in output per hour) reflects a more rapid increase in output (2.5 percent a year) than in employee hours (0.9 percent a year).

Between 1973 and 1979, however, productivity declined by 2.3 percent a year. Steady productivity growth began after 1980. Between 1979 and 1994, output increased at an average rate of 3.3 percent a year and hours increased 0.5 percent a year. Productivity for this period grew at an average rate of 2.8 percent a year.

Additional information on productivity in the housefurnishings industry can be found in "Productivity Growth Improves in Housefurnishings Industry," by Robert Critchlow, *Monthly Labor Review*, March 1996, pp. 23-28.

*Fabricated plate work (SIC 3443).* Over the 1982-94 period, labor productivity rose at an average annual rate of 1.8 percent in the fabricated plate work industry. During this period, output actually declined at a rate of 0.1 percent. Employee hours declined more rapidly, however, at a rate of 1.8 percent.

The industry produces a variety of products, including fabricated steel plate, heat exchangers and steam condensers, boilers, gas cylinders and metal tanks. There are many different types of customers for these products. Metal storage tanks, for example, are used by chemical processing industries, water treatment facilities and for petroleum processing and storage. Metal tanks are also used for transporting products such as chemicals. Boilers are sold to residential and commercial customers and provide heat, hot water, and steam.

A major factor in the growth of industry productivity has been the use of computer technology in the production process. Computers have been used in production and related operations. The use of computer-aided design and computer-aided manufacturing (CAD/CAM) have helped to integrate the design and manufacturing processes and this has increased efficiency and product quality. Microprocessor controls have been introduced for many types of production and related equipment, contributing to productivity gains, while improvements in welding procedures and tools have improved product quality.

Productivity growth in this industry has fluctuated somewhat from year to year but has been generally positive in recent years. From 1982 to 1989, there were 5 years when productivity declined and 2 years when it increased. Since 1989, however, productivity has not declined at all; it posted a large increase of 10.3 percent in 1994. The spread of information processing technology has contributed to improved productivity growth in recent years.

The productivity trend over the 1982-94 period reflects relatively stagnant output trends and a long-term decline in employee hours. Although output has been fairly stable over the long term, it has exhibited substantial year-to-year fluctuations. Hours have also fluctuated substantially from year to year but, over the period as a whole, they declined by almost 20 percent.

Productivity in the fabricated plate work industry is the subject of a forthcoming article in the *Monthly Labor Review*.

*Miscellaneous shopping goods stores (SIC 594).* Productivity in this newly introduced industry, as measured by output per hour of all persons, rose at an average annual rate of 1.3 percent between 1977 and 1994. Output grew at a rate of 4.1 percent per year and hours of all persons rose at a rate of 2.7 percent. Productivity growth in the miscellaneous shopping goods stores industry is moderate compared to other retail industries published by the Bureau of Labor Statistics.

The miscellaneous shopping goods stores industry comprises a variety of retail stores. There are nine sub-industries including sporting goods stores; book stores; stationery stores; jewelry stores; hobby, toy, and game shops; camera and photographic supply stores; gift, novelty and souvenir shops; luggage and leather goods stores; and sewing, needlework, and piece goods stores.

The industry is characterized by small, single-unit, specialty stores, each retailing a narrow line of full-priced merchandise. Most retail miscellaneous shopping goods stores are independents, not affiliated with chains. However, the number of stores associated with chains and their proportion within the industry increased during the study period. Ten percent of all miscellaneous shopping goods stores in 1977 were affiliated with chains and accounted for 32 percent of sales; in 1992 the figures were 27 percent and 51 percent, respectively.

Industry productivity has been positively affected by the change in industry structure. The change in industry structure toward more chain-owned stores has aided productivity gains as chains have significant advantages over independent stores. For example, chains can better afford modern technology in retail operations as they have greater capital. A related trend in the miscellaneous shopping goods stores industry is the growth of 'super stores' or warehouse stores. These are highly organized, have huge sales volumes, and

operate on computerized systems.

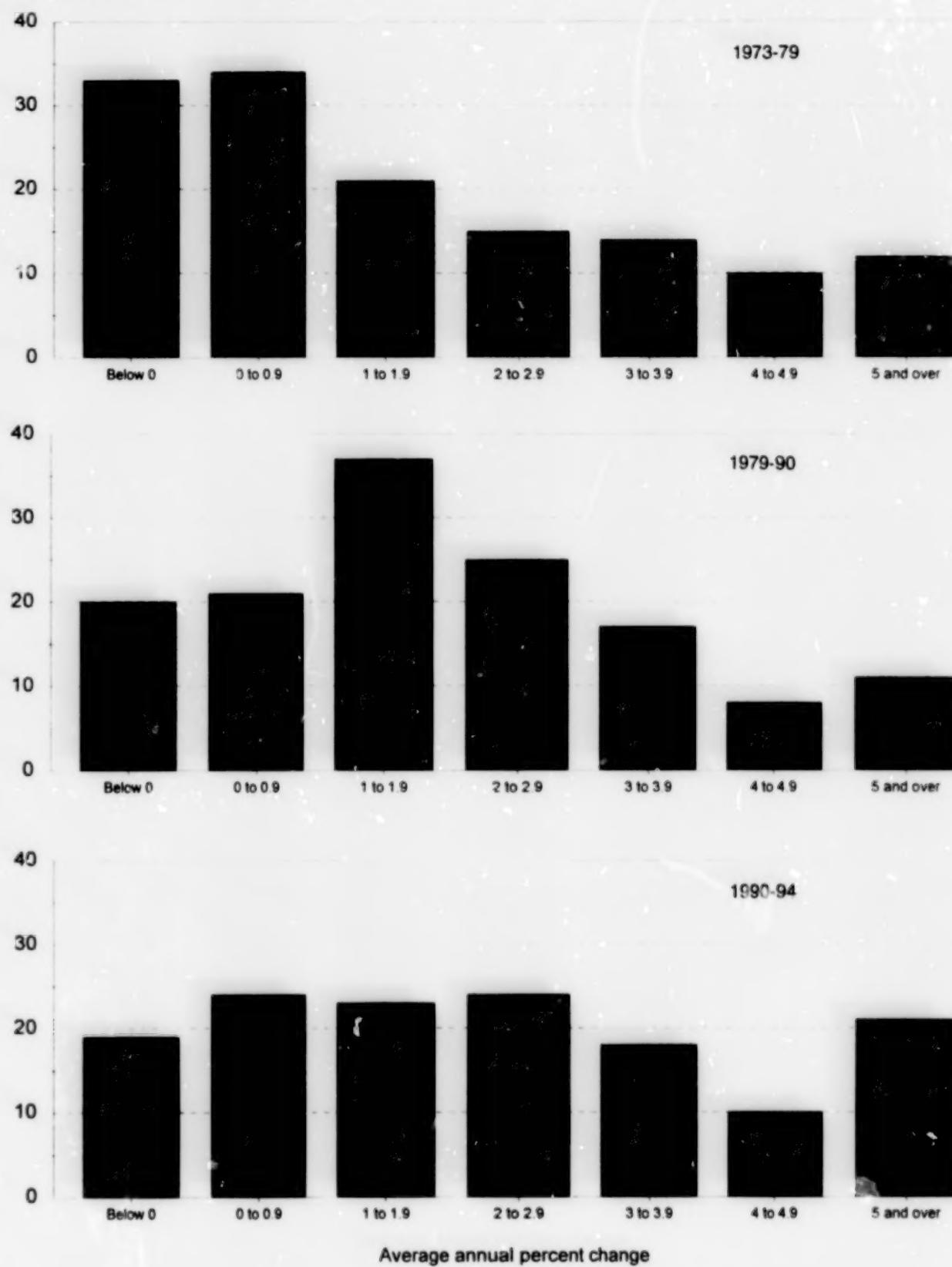
The major technological change within the miscellaneous shopping goods stores industry has been the widespread and increasing use of computers for retail operations. In large independent and chain stores, computers are used for inventory control through point-of-sale terminals (electronic cash registers) and electronic scanning devices. This technology reduces employee time required to monitor shelf stocks. Computerized cash registers also balance the cash register accurately, reduce audit expense, and speed up credit authorization.

The number of persons working in the industry increased by 3.2 percent a year, on average, compared to the 2.7-percent rate for hours. Employment increased faster than hours because of a steady decline in average weekly hours. This is especially true of nonsupervisory workers, whose average weekly hours declined from 31.9 in 1977 to 28.2 in 1994. The decrease in average weekly hours reflects an increase in part-time salespersons, often of school age, who work during weekends and evenings.

Additional information on productivity in the miscellaneous shopping goods stores can be found in "Productivity in Retail Miscellaneous Shopping Goods Stores," by Ziaul Z. Ahmed and Patricia S. Wilder, *Monthly Labor Review*, October 1995, pp.33-37.

**Chart 1. Output per hour in 139 industries, selected periods**

Number of industries



Note: Average annual percent change using compound rate formula.

Table 1. Selected Industries: Employment and annual rates of change in output per hour, selected periods

SIC code	Industry	1994 Employment <sup>1</sup> (thousands)	Annual percent change in output per hour <sup>2</sup>				
			Current trends		Long-term trends		
			1992-93	1993-94	1973-79	1979-90	1990-94
<b>Mining</b>							
101	Iron mining, usable ore .....	9	4.3	-5.4	0	5.2	-1.8
102	Copper mining, recoverable metal .....	14	2.5	4.7	2.3	7.1	4.7
12	Coal mining .....	112	9.6	3.4	-3.8	7.3	6.2
122	Bituminous coal and lignite mining .....	105	1.0	3.4	-3.9	7.4	6.3
131	Crude petroleum and natural gas production .....	162	4.3	6.2	-7.3	-1.2	3.9
14	Nonmetallic minerals, except fuels .....	103	-2.4	3.7	1.1	.8	.6
142	Crushed and broken stone .....	40	-1.4	4.5	2.2	1.2	1.4
<b>Manufacturing</b>							
2011,13	Red meat products .....	227	.5	-3.4	2.6	1.1	1.2
2011	Meat packing plants .....	138	.6	-3.7	2.4	2.3	1.1
2013	Sausages and other prepared meats .....	90	.4	-3.2	5.5	.4	1.1
2015	Poultry dressing and processing .....	224	.2	.1	5.9	2.6	2.5
202	Dairy products .....	149	-1.6	1.6	3.4	3.4	1.6
2022	Cheese, natural and processed .....	39	-5.2	1.7	.7	3.4	2.1
2026	Fluid milk .....	66	3.0	5.8	4.2	3.6	2.3
203	Preserved fruits and vegetables .....	245	5.8	1.1	1.1	1.6	3.0
2033	Canned fruits and vegetables .....	82	5.0	-4.4	1.7	1.8	2.1
2037	Frozen fruits and vegetables .....	49	6.6	6.6	1.5	.5	5.0
204	Grain mill products .....	128	4.8	1.0	3.9	4.2	1.0
2041,45	Flour (inc. flour mixes) and other grains .....	33	1.8	2.4	1.4	2.6	2.1
2041	Flour and other grain mill products .....	20	9.2	3.8	2.7	2.7	4.1
2043	Cereal breakfast foods .....	20	-3.6	11.6	2.1	2.8	1.6
2044	Rice milling .....	5	27.7	-15.7	2.6	3.8	1.0
2046	Wet corn milling .....	10	9.9	-1.7	11.8	7.4	1.5
2047,48	Prepared feeds for animals and fowls .....	60	2.4	-2.0	4.3	4.4	.3
205	Bakery products .....	213	1.0	.8	.3	1.0	-.6
2061,62,63	Sugar .....	20	3.5	.2	2.2	1.4	2.5
2061,62	Raw and refined cane sugar .....	11	7.6	-7.0	3.5	1.0	.9
2063	Beet sugar .....	9	-.9	11.7	.5	2.0	5.9
2082	Malt beverages .....	37	-.8	3.8	6.7	5.1	1.4
2086	Bottled and canned soft drinks .....	96	.3	2.1	4.6	6.3	3.9
2092	Fresh or frozen prepared fish .....	45	4.7	-5.8	.1	-.5	1.5
211,2,3	Tobacco products .....	35	-11.3	-	3.5	2.4	-.3
211,3	Cigarettes, chewing and smoking tobacco .....	33	-1.4	-	2.2	1.8	-.2
221,2	Cotton and synthetic broadwoven fabrics .....	149	6.3	6.4	4.5	3.3	5.5
2251,52	Hosiery .....	67	-4.0	7.5	6.7	1.4	3.7
2281	Yarn spinning mills .....	74	5.2	5.8	3.4	4.1	4.6
231	Men's and boys' suits and coats .....	39	6.4	19.4	4.0	-.3	7.1
2392	Housefurnishings, except curtains and draperies .....	56	-.7	-2.8	-2.3	2.6	3.3
2421	Sawmills and planing mills, general .....	150	-6.8	1.1	1.2	2.9	.7
2426	Hardwood dimension and flooring mills .....	37	5.5	.3	-.2	1.3	3.9
2431	Millwork .....	110	-.9	-3.1	-1.5	2	-2.1
2434	Wood kitchen cabinets .....	75	-.1	-5.9	1.7	.5	.6
2435,36	Veneer and plywood .....	54	-4.0	-4.1	.1	3.5	-1.6
2435	Hardwood veneer and plywood .....	25	1.6	-1.8	-.1	1.3	.6
2436	Softwood veneer and plywood .....	29	-5.3	-1.5	-.5	4.7	-1.5
244	Wood containers .....	49	-8.5	1.3	-5.3	3.9	-2.3
251	Household furniture .....	284	.1	2.2	1.7	1.4	2.0
2511,17	Wood household furniture .....	132	-0.3	0.2	0.2	1.2	0.9
2512	Upholstered household furniture .....	92	0	8.5	3.5	1.4	4.9
2514	Metal household furniture .....	23	-2.5	-6.8	.7	3.2	-.5

See footnotes at end of table.

Table 1. Selected Industries: Employment and annual rates of change in output per hour, selected periods—Continued

SIC code	Industry	1994 Employment <sup>1</sup> (thousands)	Annual percent change in output per hour <sup>2</sup>				
			Current trends		Long-term trends		
			1992-93	1993-94	1973-79	1979-90	1990-94
<b>Manufacturing—Continued</b>							
2515	Mattresses and bedsprings .....	30	1.0	1.4	5.1	1.4	.1
252	Office furniture .....	62	.1	-.8	2.2	.9	.5
2521	Wood office furniture .....	29	-2.5	-.4	6.0	-1.7	1.7
2522	Office furniture, except wood .....	33	.4	0	1.4	2.0	-.3
261,2,3	Pulp, paper, and paperboard mills .....	232	-.2	6.6	2.4	2.6	2.1
2653	Corrugated and solid fiber boxes .....	125	3.5	4.8	3.7	1.3	2.3
2657	Folding paperboard boxes .....	48	1.3	3.6	.8	1.4	3.8
2673,74	Paper and plastic bags .....	59	-2.0	4.3	.8	-.2	1.0
281	Industrial inorganic chemicals .....	90	4.4	-.4	.8	2.2	.7
2812	Alkalies and chlorine .....	13	-3.3	-.8	4.8	5.6	-2.3
2816	Inorganic pigments .....	11	.1	4.9	-1.1	4.0	2.0
2819 (part)	Industrial inorganic chemicals, n.e.c. ..	43	5.5	.4	2	1.6	.5
2823,24	Synthetic fibers .....	69	13.1	6.3	1.8	3.1	4.9
2841	Soaps and detergents .....	43	-2.3	-1.2	.4	3.2	-3.5
2844	Cosmetics and other toiletries .....	68	.1	3.0	.9	.7	2.5
285	Paints and allied products .....	58	5.6	7.2	4.0	2.6	2.3
2869	Industrial organic chemicals, n.e.c. ....	115	-3.4	9.2	4.1	.8	-.8
287	Agricultural chemicals .....	55	3.5	.7	2.5	2.9	2.1
2873	Nitrogenous fertilizers .....	9	5.1	-5.4	1.8	3.8	.8
2874	Phosphatic fertilizers .....	10	.8	15.7	1.5	3.5	5.3
2875	Fertilizers, mixing only .....	10	9.4	-14.5	3.4	.2	1.3
2879	Agricultural chemicals, n.e.c. ....	27	2.4	4.1	2.0	2.2	2.1
291	Petroleum refining .....	109	7.9	3.1	-.3	2.8	3.2
301	Tires and inner tubes .....	80	8.1	2.9	2.2	4.4	3.9
3052	Rubber and plastics hose and belting .....	25	6.7	-5.8	.7	2.1	.4
308	Miscellaneous plastics products, n.e.c. ....	690	1.9	3.0	.3	3.2	3.3
314	Footwear, except rubber .....	58	4.2	5.7	.7	-.2	2.8
3221	Glass containers .....	33	-4.9	5.4	1.8	2.3	1.0
324	Cement, hydraulic .....	18	4.2	4.8	-.6	4.6	2.8
325	Structural clay products .....	32	-.5	8.0	1.1	1.6	1.0
3251,53,59	Clay construction products .....	27	3.4	5.3	.1	2.4	1.3
3251	Brick and structural clay tile .....	14	-3.5	6.9	-.5	1.6	1.1
3253	Ceramic wall and floor tile .....	10	17.9	-.6	2.9	3.6	1.2
3255	Clay refractories .....	6	-3.7	1.1	2.7	.9	.2
3271,72	Concrete products .....	83	5.9	-1.3	-.2	1.2	1.0
3273	Ready-mixed concrete .....	99	-1.3	-3.9	-.5	.4	-1.8
331	Steel .....	239	14.0	6.3	.4	4.8	6.6
3321	Gray and ductile iron foundries .....	79	5.0	2.3	.2	1.4	1.8
3324,25	Steel foundries .....	41	6.2	-1.2	-.2	-.7	.9
3325	Steel foundries, n.e.c. ....	26	5.1	-3.7	-.1	.6	.8
3331	Primary copper .....	6	2.9	-15.0	3.8	6.8	-3.4
3334	Primary aluminum .....	23	-3.6	-6.7	.2	3.3	-1.9
3351	Copper rolling and drawing .....	23	7.5	6.6	.9	.9	1.2
3363,54,55	Aluminum rolling and drawing .....	57	-2.7	6.3	1.1	.7	2.3
3411	Metal cans .....	34	3.8	4.5	4.1	4.1	4.6
3423	Hand and edge tools, n.e.c. ....	38	.2	9.1	.5	-1.5	1.7
3433	Heating equipment, except electric .....	21	.5	2.5	1.7	2.6	2.3
3441	Fabricated structural metal .....	89	4.3	1.4	-2.0	1.5	2.0
3442	Metal doors, sash, and trim .....	75	-1.2	-2.1	.4	1.0	0
3443	Fabricated plate work .....	98	0	1.3	-.1	5.9	3.6
3452	Bolts, nuts, rivets, and washers .....	47	1.0	3.0	.7	1.6	.5
3465,66,69	Metal stampings .....	198	6.1	3.7	.8	.5	6.0
3465	Automotive stampings .....	106	6.2	3.1	1.4	1.5	6.7
3469	Metal stampings, n.e.c. ....	87	6.1	4.3	.6	-.9	4.9
3491,92,94	Valves and pipe fittings .....	78	3.8	5.7	.4	.6	1.9
3498	Fabricated pipe and fittings .....	27	3.4	-2.6	-3.2	-.7	.8
3519	Internal combustion engines, n.e.c. ....	61	3.1	13.4	.7	2.1	2.2

See footnotes at end of table.

Table 1. Selected Industries: Employment and annual rates of change in output per hour, selected periods—Continued

SIC code	Industry	1994 Employment <sup>1</sup> (thousands)	Annual percent change in output per hour <sup>2</sup>				
			Current trends		Long-term trends		
			1992-93	1993-94	1973-79	1979-90	1990-94
<b>Manufacturing—Continued</b>							
352	Farm and garden machinery .....	105	4.1	6.6	1.0	1.6	2.1
3523	Farm machinery and equipment .....	77	3.9	8.5	.6	1.4	.5
3524	Lawn and garden equipment .....	28	5.5	1.4	2.9	1.2	5.2
3531	Construction machinery .....	76	6.4	15.8	.7	1.7	3.1
3532	Mining machinery .....	16	21.5	-11.1	-2.2	.9	-3
3533	Oil and gas field machinery .....	37	-2.9	12	-2	-2.8	2.1
3541,42	Machine tools .....	54	2.7	-4.8	-.7	-1	2.1
3541	Metal cutting machine tools .....	38	-1.4	-2.0	-1	-2	2.4
3542	Metal forming machine tools .....	16	12.2	-1.4	-2.2	-1	1.3
3545	Machine tool accessories .....	50	4.9	1.9	-.9	.3	2.0
3561,63,94	Pumps and compressors .....	82	4.0	4.5	.9	1.4	1.8
3561,94	Pumps and pumping equipment .....	56	6.7	3.9	1.4	1.1	1.4
3562	Ball and roller bearings .....	37	6.1	3.3	.3	-1.5	3.6
3563	Air and gas compressors .....	26	-1.2	4.6	-3	2.1	2.0
3585	Refrigeration and heating equipment ...	129	3.9	3.6	-3	.7	2.2
3592	Carburetors, pistons, rings, and valves .....	22	8.0	2.4	-3.7	3.1	5.2
3612	Transformers, except electronic .....	41	-3.8	16.0	1.5	-2	7.1
3613	Switchgear and switchboard apparatus .....	41	7.3	1.2	-1	1.8	4.0
3621	Motors and generators .....	78	13.9	-3.0	.1	1.1	5.1
3631,32,33,39	Major household appliances .....	82	12.8	8.8	3.2	2.0	6.6
3631	Household cooking equipment .....	21	2.8	23.0	4.2	2.1	6.4
3632	Household refrigerators and freezers ..	30	.7	8.5	3.8	1.9	4.2
3633	Household laundry equipment .....	17	24.9	3.9	2.7	1.9	9.7
3639	Household appliances, n.e.c. ....	14	28.4	1.3	3.0	1.7	6.7
3641	Electric lamp bulbs and tubes .....	22	-1.5	-3.2	3.7	2.3	-1
3645,46,47,48	Lighting fixtures and equipment .....	73	4.9	5.7	.4	1.0	3.4
3651	Household audio and video equipment	62	7.4	7.7	9.8	11.1	9.1
371	Motor vehicles and equipment .....	809	1.1	3.0	2.1	2.5	1.5
3721	Aircraft .....	271	.5	-7.5	3.7	1.2	3.9
3825	Instruments to measure electricity .....	72	2.9	18.5	1.8	3.8	8.1
386	Photographic equipment and supplies ..	89	8.8	4.2	5.0	2.9	5.2
<b>Transportation</b>							
4011	Railroad transportation, revenue traffic .....	215	-	-	2.6	7.4	8.5
411,13,14 (pts)	Bus carriers, class I .....	15	-	-	-1.3	7.3	-
4213	Trucking, except local .....	515	-	-	3.2	7.2	-
4213 (pt)	Trucking, except local, general freight .	316	-	-	4.0	7.0	-
4512,13,22 (pts)	Air transportation .....	584	7.2	1.8	5.6	1.9	3.3
4612,13	Petroleum pipelines .....	18	4.2	.7	.7	.5	.6
<b>Utilities</b>							
481	Telephone communications .....	903	5.3	0.9	6.8	5.4	4.8
491,2,3	Gas and electric utilities .....	754	6.0	3.4	.6	-2	3.3
491,3 (pt)	Electric utilities .....	584	4.7	5.9	1.2	1.3	3.8
492,3 (pt)	Gas utilities .....	190	1.2	-4.5	-.5	-3.6	1.4
<b>Trade</b>							
5003	Scrap and waste materials .....	142	7.6	-2.8	5.0	1.8	2.0
525	Hardware stores .....	175	-.5	6.9	2.7	1.1	.8
531	Department stores .....	2,212	3.8	3.3	3.3	2.2	3.6
533	Variety stores .....	149	1.6	-8.9	-3.1	1.9	.6
54	Food stores .....	3,457	-1.3	-.8	-.8	-.8	-.9
541	Grocery stores .....	3,047	-.6	-1.1	-.4	-1.1	-.8
546	Retail bakeries .....	190	-8.5	2.1	-1.8	-2.0	-5
551	New and used car dealers .....	984	1.1	1.4	2	1.9	.7

See footnotes at end of table.

Table 1. Selected Industries: Employment and annual rates of change in output per hour, selected periods—Continued

SIC code	Industry	1994 Employment <sup>1</sup> (thousands)	Annual percent change in output per hour <sup>2</sup>				
			Current trends		Long-term trends		
			1992-93	1993-94	1973-79	1979-80	1980-94
<b>Trade—Continued</b>							
553	Auto and home supply stores .....	392	0	2.5	2.0	2.3	-.3
554	Gasoline service stations .....	662	2.5	2.3	3.6	3.1	2.9
56	Apparel and accessory stores .....	1,216	.7	3.9	2.0	2.3	3.0
561	Men's and boys' clothing stores .....	94	-.6	19.4	1.0	2.9	5.2
562	Women's clothing stores .....	361	5.0	-.3	3.6	3.0	3.6
565	Family clothing stores .....	337	-.6	4.6	-.2	3.0	2.7
566	Shoe stores .....	211	-.6	6.3	1.9	1.4	2.6
57	Home furniture, furnishings, and equipment stores .....	1,013	3.8	6.8	2.0	3.3	5.4
571	Furniture and homefurnishings stores .	563	.3	-.2	1.4	1.1	1.6
572,3	Appliance, radio, television, and computer stores .....	450	7.9	14.9	3.0	6.5	9.8
572	Household appliance stores .....	88	.6	1.2	3.4	3.2	5.3
573	Radio, television, and computer stores	364	9.6	15.1	2.5	7.8	1.6
58	Eating and drinking places .....	7,354	.7	.7	-.6	-.2	0
591	Drug stores and proprietary stores .....	611	1.1	-1.0	1.7	2	0
592	Liquor stores .....	148	-7.3	-3.8	-.9	1.4	-2.1
594	Miscellaneous shopping goods stores	1,058	3.3	1.6	<sup>4</sup> 3.2	1.2	1.0
<b>Finance and services</b>							
602	Commercial banks .....	1,492	1.8	-	.6	2.4	<sup>5</sup> 6.2
701	Hotels and motels .....	1,566	-1.0	3.3	1.2	-1.2	3.5
721	Laundry, cleaning, and garment services .....	423	-.1	2.0	-.1	-.8	.2
723,4	Beauty and barber shops .....	397	-2.8	3.5	1.5	.8	1.2
723	Beauty shops .....	385	-3.8	4.3	.7	.7	.8
753	Automotive repair shops .....	543	.3	7.6	-.7	2	1.1

Dash (-) indicates data are not available.

<sup>1</sup> Employment figures are based primarily on data from the BLS Current Employment Statistics (CES) Survey and the Current Population Survey (CPS). Data on proprietors and unpaid family workers from the CPS are included in the figures for most trade and services industries and, as a result, these figures will differ from those published by the CES program, which covers payroll employment exclusively.

<sup>2</sup> Output per employee hour is used in all cases except: (1) output per employee is used for SIC 4213, SIC 4213 (part), and SIC 4512, 13, 22 (parts); and (2) output per hour of all persons is used for all trade and services industries except SIC 531 and SIC 551.

<sup>3</sup> 1990 to 1993.

<sup>4</sup> 1977 to 1979.

<sup>5</sup> 1982 to 1990.

<sup>6</sup> 1990 to 1992.

<sup>7</sup> 1979 to 1989.

**Table 2. Iron mining, usable ore (SIC 101): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	48.2	48.9	179.4	388.4	382.3	408.4	308.8
1971 .....	44.9	44.3	184.0	385.1	370.5	382.8	300.0
1972 .....	48.8	48.2	156.9	318.2	323.3	340.8	288.8
1973 .....	50.8	52.0	180.5	355.8	347.2	369.2	275.1
1974 .....	47.1	50.0	174.9	371.0	360.1	375.1	288.8
1975 .....	48.9	48.7	171.8	351.6	346.8	385.7	281.5
1976 .....	48.2	48.8	175.9	385.1	380.2	381.4	283.9
1977 .....	41.8	43.0	122.1	283.5	283.9	280.9	283.9
1978 .....	48.0	51.2	182.1	371.8	365.9	378.9	287.8
1979 .....	50.9	52.7	182.3	377.7	384.9	382.8	308.8
1980 .....	51.0	48.9	156.3	304.6	317.7	321.3	308.8
1981 .....	53.9	52.8	183.3	302.7	310.3	315.4	293.9
1982 .....	40.5	39.7	77.1	180.5	184.2	178.9	243.9
1983 .....	58.8	54.4	82.5	146.3	151.5	132.7	212.7
1984 .....	70.0	68.9	112.2	180.4	167.8	189.8	193.9
1985 .....	78.1	74.7	105.5	138.7	141.2	138.5	180.0
1986 .....	78.3	78.7	83.3	105.0	105.8	103.9	112.7
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	103.1	104.9	118.7	115.2	113.2	118.2	93.8
1989 .....	98.4	102.6	120.8	122.6	117.8	128.9	87.5
1990 .....	88.5	93.1	114.9	129.9	123.5	128.8	108.3
1991 .....	85.0	87.5	114.8	134.8	130.9	130.8	131.2
1992 .....	83.3	85.4	111.8	134.2	130.9	128.8	137.5
1993 .....	88.9	90.8	113.5	130.8	125.0	130.8	108.3
1994 .....	82.2	89.7	116.1	141.3	129.4	138.5	100.0
<b>Average annual percent change:</b>							
1985-94 .....	2.8	3.0	-5	-3.2	-3.4	-3.5	-2.8
1980-94 .....	-1.8	-0.9	-3	2.1	1.2	1.8	-1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior;

and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 3. Copper mining, recoverable metal (SIC 102): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	42.3	43.5	121.1	288.4	278.1	270.2	274.2
1971 .....	40.9	41.3	107.5	282.5	259.9	251.4	282.5
1972 .....	43.5	41.8	117.9	270.9	283.4	283.9	281.7
1973 .....	42.4	40.3	123.3	280.5	305.7	307.8	298.4
1974 .....	37.1	34.9	115.7	311.5	331.1	329.7	337.1
1975 .....	38.1	35.0	103.5	271.4	295.4	285.8	333.5
1976 .....	46.8	42.8	119.0	254.0	278.1	287.8	318.8
1977 .....	40.4	44.2	112.7	227.9	254.7	243.9	288.4
1978 .....	53.2	48.4	112.2	2'0.8	227.4	218.3	283.1
1979 .....	48.5	47.3	119.5	246.5	262.5	243.9	286.1
1980 .....	45.3	43.1	97.9	216.3	227.4	219.0	250.3
1981 .....	48.3	46.8	127.7	284.3	272.8	264.9	303.9
1982 .....	57.4	51.8	95.3	188.1	184.2	189.5	241.0
1983 .....	64.3	59.8	85.7	133.4	143.3	128.5	200.2
1984 .....	75.9	73.2	90.5	119.1	123.6	108.5	181.7
1985 .....	83.8	90.7	90.0	98.2	98.3	98.5	137.1
1986 .....	109.7	105.5	92.6	84.4	87.8	84.7	100.0
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	109.1	110.7	113.3	103.8	102.3	100.0	111.1
1989 .....	108.5	113.0	119.0	111.7	105.3	105.7	103.7
1990 .....	102.7	108.2	125.4	122.1	115.9	118.1	107.4
1991 .....	100.5	108.2	128.0	127.4	120.5	124.8	103.7
1992 .....	115.2	118.8	137.7	119.5	115.9	119.0	103.7
1993 .....	118.1	123.7	140.5	119.0	113.6	118.1	98.3
1994 .....	123.6	129.6	141.4	114.4	109.1	114.3	88.9
<b>Average annual percent change:</b>							
1985-94 .....	3.7	3.7	1.9	-1.7	-1.8	-1.8	-1.5
1980-94 .....	4.7	4.6	3.0	-1.6	-1.5	-1.6	-4.6

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior;

Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 4. Coal mining (SIC 12): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	77.3	74.9	87.2	87.0	88.7	86.8	82.2
1971 .....	71.1	68.4	61.5	58.8	90.0	83.3	75.3
1972 .....	68.1	65.3	65.9	66.8	98.4	105.7	71.6
1973 .....	66.9	65.5	65.5	65.1	100.0	105.5	75.3
1974 .....	67.2	60.2	68.7	69.3	110.9	118.8	86.5
1975 .....	57.7	54.4	71.5	124.0	131.5	137.7	103.4
1976 .....	56.5	53.8	74.8	132.4	138.1	146.1	112.2
1977 .....	54.8	54.7	78.1	138.9	138.2	145.2	112.5
1978 .....	58.4	66.5	73.1	125.3	129.5	130.7	124.3
1979 .....	54.5	53.2	65.2	158.2	160.0	163.1	145.9
1980 .....	61.7	59.5	90.6	146.7	152.2	154.2	143.8
1981 .....	67.1	64.7	89.9	134.0	138.8	140.4	131.4
1982 .....	65.6	62.5	91.3	138.2	148.2	148.4	145.8
1983 .....	75.0	71.2	85.2	113.8	119.8	117.7	128.0
1984 .....	83.4	80.8	97.8	117.0	120.8	118.7	125.7
1985 .....	85.1	83.2	98.3	113.2	115.8	115.8	118.8
1986 .....	92.4	89.2	97.0	105.0	108.7	108.8	108.4
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	110.5	111.0	103.4	93.8	93.2	93.1	93.8
1989 .....	116.4	120.1	106.7	91.6	98.8	97.8	93.2
1990 .....	118.3	123.8	111.9	94.8	90.5	89.8	94.8
1991 .....	122.1	129.4	108.3	88.7	83.7	83.1	88.8
1992 .....	132.7	138.5	108.5	81.8	78.4	77.8	80.7
1993 .....	146.4	153.3	102.9	70.8	87.1	85.3	78.3
1994 .....	150.4	161.7	112.1	74.6	89.3	88.4	73.8
Average annual percent change:							
1985-94 .....	3.4	3.9	1.8	-1.5	-2.0	-2.4	.7
1980-94 .....	6.2	6.9	.0	-5.8	-6.5	-6.5	-6.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S.

Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 5. Bituminous coal and lignite mining (SIC 122): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	77.7	75.4	85.9	84.8	87.4	83.5	80.4
1971 .....	71.8	68.6	60.3	84.3	87.9	91.2	73.0
1972 .....	68.1	66.2	65.0	95.5	98.3	104.6	70.5
1973 .....	66.0	65.4	64.7	93.7	98.9	104.5	74.5
1974 .....	67.2	59.8	65.9	98.1	110.2	115.9	84.9
1975 .....	57.5	54.1	70.8	123.2	131.0	137.4	102.5
1976 .....	58.3	53.5	74.2	131.7	138.6	144.8	111.2
1977 .....	54.7	54.4	75.5	138.2	138.9	145.0	111.8
1978 .....	58.3	56.2	72.7	124.6	129.3	130.5	124.1
1979 .....	54.4	53.0	84.8	155.8	160.0	163.2	145.7
1980 .....	61.6	59.2	90.0	146.2	152.1	154.0	143.5
1981 .....	67.0	64.6	69.4	133.4	138.4	140.0	131.3
1982 .....	65.7	62.4	91.1	138.6	146.0	146.0	145.7
1983 .....	75.0	71.2	85.0	113.4	119.3	117.4	127.7
1984 .....	83.4	80.8	97.4	118.8	120.6	119.8	125.2
1985 .....	94.8	83.0	98.0	113.2	115.7	115.8	115.8
1986 .....	92.5	89.2	98.8	104.7	108.5	108.7	107.9
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	111.8	111.7	103.4	92.7	92.8	92.8	92.4
1989 .....	117.2	120.3	106.8	91.1	98.8	97.8	92.8
1990 .....	118.7	123.7	112.1	94.4	90.8	89.8	94.2
1991 .....	122.4	129.8	108.4	88.6	83.7	83.1	88.3
1992 .....	133.0	138.8	108.8	81.8	78.2	77.7	80.8
1993 .....	146.3	154.1	102.8	70.3	88.7	84.7	76.8
1994 .....	151.3	161.9	112.2	74.2	89.3	88.3	73.7
Average annual percent change:							
1985-94 .....	3.4	3.9	2.1	-1.3	-1.7	-2.1	1.2
1980-94 .....	6.3	7.0	.0	-5.8	-6.5	-6.6	-6.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S.

Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 6. Crude petroleum and natural gas (SIC 131): Indexes of output per hour and related measures, 1970-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	100.1	100.8	110.7	70.8	70.9	74.7	67.2
1971 .....	107.3	107.8	118.8	71.0	70.9	74.9	67.0
1972 .....	109.4	109.3	118.7	70.5	70.1	73.2	67.1
1973 .....	173.5	171.5	116.8	67.3	68.1	69.7	68.5
1974 .....	161.5	157.6	111.2	68.9	70.8	71.1	70.2
1975 .....	142.8	138.8	105.5	73.0	78.0	77.9	74.0
1976 .....	131.9	130.7	103.2	78.2	78.9	82.9	75.2
1977 .....	125.0	125.3	104.2	83.4	83.2	88.5	80.0
1978 .....	119.7	120.3	107.8	88.9	88.5	88.8	88.2
1979 .....	110.3	110.5	107.0	97.3	97.1	93.5	100.3
1980 .....	97.2	97.1	107.1	110.2	110.3	102.5	117.4
1981 .....	83.0	83.4	108.4	128.2	127.8	114.5	140.1
1982 .....	78.1	78.4	104.7	134.0	133.5	124.7	141.8
1983 .....	77.2	78.4	101.5	131.4	129.5	122.1	138.3
1984 .....	81.9	82.9	105.8	129.2	127.8	119.2	135.8
1985 .....	83.0	84.0	104.1	125.5	124.0	117.0	130.8
1986 .....	90.3	92.2	101.0	111.8	108.8	107.1	112.1
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	100.9	101.3	98.8	98.7	98.4	98.5	97.5
1989 .....	98.0	98.5	98.3	98.2	98.7	98.2	97.2
1990 .....	98.9	98.9	98.3	98.3	98.3	98.4	98.2
1991 .....	97.9	98.3	98.8	97.7	98.3	98.3	98.5
1992 .....	102.1	102.8	94.1	92.1	91.5	95.8	97.7
1993 .....	108.5	108.1	92.9	97.2	95.9	97.2	94.8
1994 .....	113.1	114.8	93.2	92.4	81.2	82.8	79.7
Average annual percent change:							
1980-94 .....	.8	.7	.4	-3	-3	-1.0	.8
1980-94 .....	3.9	3.8	-8	-4.3	-4.2	-3.7	-4.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S.

Department of Energy; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 7. Nonmetallic minerals, except fuels (SIC 14): Indexes of output per hour and related measures, 1970-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	80.1	79.7	83.1	103.7	104.2	110.8	82.4
1971 .....	79.2	79.2	82.8	104.4	104.3	108.8	88.1
1972 .....	82.1	81.5	86.1	104.8	105.8	110.5	89.3
1973 .....	88.5	87.8	94.7	109.5	107.8	112.8	91.7
1974 .....	83.4	84.1	93.1	111.6	110.7	115.4	94.9
1975 .....	81.0	79.4	94.2	103.9	105.0	109.0	95.9
1976 .....	88.1	84.8	88.3	102.5	104.1	107.1	94.9
1977 .....	89.7	89.2	83.9	104.7	105.3	108.7	94.9
1978 .....	94.3	94.1	101.2	107.4	107.8	111.3	95.8
1979 .....	92.8	92.8	104.4	112.8	112.5	118.3	100.0
1980 .....	98.9	94.8	94.5	108.7	111.5	113.7	105.0
1981 .....	95.8	92.2	88.8	103.4	107.7	107.8	108.0
1982 .....	93.8	77.1	76.9	95.1	96.7	98.3	104.3
1983 .....	98.5	95.8	81.3	91.9	94.8	93.3	99.8
1984 .....	94.0	93.2	91.9	97.8	98.8	97.8	101.0
1985 .....	95.1	93.9	94.0	98.9	100.1	98.0	103.3
1986 .....	95.1	93.9	93.5	98.3	98.8	98.7	102.7
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	101.0	101.5	103.1	102.1	101.8	101.1	103.5
1989 .....	99.8	100.1	101.2	101.8	101.1	100.2	103.9
1990 .....	101.4	101.0	101.3	98.9	100.3	98.7	105.5
1991 .....	99.5	98.3	91.4	92.8	95.0	92.3	103.9
1992 .....	102.7	101.3	93.7	91.2	92.5	98.8	101.8
1993 .....	100.2	101.4	93.8	93.4	92.3	93.4	98.4
1994 .....	103.9	108.3	98.8	98.1	93.9	92.3	99.2
Average annual percent change:							
1980-94 .....	1.9	2.1	1.8	-1	-3	-8	.8
1980-94 .....	.6	1.3	-4	-1.0	-1.6	-1.7	-1.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior;

the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 8. Crushed and broken stone (SIC 142): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	88.2	88.4	70.4	101.8	103.0	107.7	84.1
1971 .....	67.4	67.1	71.1	105.5	108.1	109.9	91.4
1972 .....	71.2	69.7	75.2	105.6	108.0	113.1	87.7
1973 .....	78.6	79.0	86.7	110.3	109.7	114.6	80.2
1974 .....	78.8	78.8	86.8	111.8	111.7	115.9	85.1
1975 .....	78.3	72.8	75.3	98.6	103.4	108.4	91.4
1976 .....	78.2	75.5	75.2	98.1	98.6	103.2	85.3
1977 .....	83.7	81.0	80.2	95.8	98.0	103.8	81.7
1978 .....	90.8	88.9	87.8	97.0	98.8	104.3	78.0
1979 .....	89.6	88.9	82.2	102.9	103.7	109.7	80.4
1980 .....	84.7	81.4	81.5	98.2	100.1	104.9	81.7
1981 .....	81.0	75.9	71.3	88.1	94.0	98.3	85.3
1982 .....	78.8	73.9	84.5	81.8	87.2	87.0	87.8
1983 .....	88.9	82.7	70.4	81.1	86.2	84.2	88.0
1984 .....	88.4	86.8	77.5	87.7	88.5	88.6	88.0
1985 .....	87.1	85.9	81.8	93.9	95.2	98.9	89.0
1986 .....	87.4	88.3	83.8	95.7	98.9	98.2	82.7
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	101.3	101.1	103.8	102.3	102.5	101.3	107.3
1989 .....	98.7	98.3	101.8	103.1	103.5	102.5	107.3
1990 .....	102.2	100.3	102.8	100.6	102.5	99.7	113.4
1991 .....	99.8	95.1	92.0	92.1	98.7	92.4	113.4
1992 .....	104.8	101.1	98.0	91.6	95.0	91.4	108.5
1993 .....	103.3	103.8	99.8	98.4	98.0	94.3	102.4
1994 .....	107.9	108.2	108.6	100.6	99.5	97.5	107.3
Average annual percent change:							
1958-94 .....	2.5	2.7	2.8	.1	-.1	-.3	1.1
1980-94 .....	1.4	2.1	1.4	.0	-.7	-.6	-1.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior;

the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

**Table 9. Red meat products (SIC 2011, 2013): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	88.5	88.9	74.5	108.8	108.1	105.6	117.9
1971 .....	88.0	88.8	78.4	110.7	109.5	108.8	112.1
1972 .....	73.9	73.8	79.2	107.2	107.3	106.9	108.9
1973 .....	72.7	72.1	73.8	101.5	102.3	100.7	108.4
1974 .....	72.1	72.8	78.1	108.2	107.3	105.8	114.0
1975 .....	71.3	71.1	74.7	104.7	105.0	102.9	113.2
1976 .....	78.8	77.1	81.9	108.7	108.2	104.1	114.0
1977 .....	83.2	82.8	89.4	107.4	107.9	108.4	113.8
1978 .....	83.6	82.8	88.2	105.5	108.6	105.5	111.0
1979 .....	85.0	84.8	87.9	103.4	103.6	103.0	108.0
1980 .....	89.7	88.8	91.2	101.7	102.9	102.8	103.5
1981 .....	93.2	92.3	93.1	99.9	100.9	101.3	98.4
1982 .....	85.3	94.1	91.9	98.4	97.7	97.8	97.2
1983 .....	98.4	97.4	93.8	95.4	98.3	95.9	97.8
1984 .....	100.0	98.5	95.8	95.8	97.1	97.4	95.7
1985 .....	102.2	101.1	97.0	94.9	95.9	98.2	94.8
1986 .....	101.4	98.8	96.8	94.3	95.8	98.7	92.2
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	102.6	102.8	105.3	102.6	102.4	102.4	102.3
1989 .....	99.7	98.8	103.6	103.9	103.9	103.9	103.7
1990 .....	98.3	98.4	100.5	104.3	104.3	105.1	101.2
1991 .....	98.3	98.2	102.0	103.8	103.9	105.8	98.3
1992 .....	104.0	104.8	109.4	105.1	104.5	105.7	100.0
1993 .....	104.5	105.0	111.0	108.3	105.7	107.2	100.0
1994 .....	100.9	104.9	111.0	110.0	105.8	108.0	97.2
Average annual percent change:							
1987-94 .....	1.5	1.8	1.5	.0	-.1	.1	-.9
1980-94 .....	1.2	2.1	2.5	1.3	.4	.7	-1.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

**Table 10. Meat packing plants (SIC 2011): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	57.7	58.2	78.2	136.5	134.3	127.1	171.8
1971 .....	57.8	58.7	78.8	136.7	134.2	129.8	156.8
1972 .....	63.4	63.5	81.4	128.4	128.3	124.8	148.4
1973 .....	65.1	64.6	77.4	118.9	119.8	115.3	142.7
1974 .....	63.1	63.7	81.1	128.6	127.4	122.9	150.5
1975 .....	63.4	62.9	78.3	123.6	124.5	120.0	147.7
1976 .....	67.8	67.9	85.8	126.8	126.4	121.5	151.4
1977 .....	72.1	72.0	91.5	128.8	127.1	122.2	152.3
1978 .....	73.7	73.1	91.0	123.4	124.4	119.7	148.2
1979 .....	75.0	74.9	90.2	120.2	120.4	116.6	130.5
1980 .....	78.4	77.8	92.5	118.0	118.9	115.1	133.2
1981 .....	84.2	83.6	98.1	114.1	114.9	112.6	126.4
1982 .....	86.8	85.9	93.8	108.1	109.0	108.9	120.0
1983 .....	90.8	90.0	95.5	105.2	108.1	103.2	121.4
1984 .....	93.8	92.1	98.5	105.2	107.0	105.5	114.5
1985 .....	98.3	97.1	100.8	102.6	103.8	103.0	108.2
1986 .....	98.7	97.0	98.9	100.2	101.9	101.9	101.8
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	100.9	100.7	103.4	102.5	102.7	102.8	102.3
1989 .....	97.9	97.3	96.5	101.8	102.2	102.3	101.8
1990 .....	98.8	98.8	97.0	100.2	101.2	101.9	97.3
1991 .....	100.2	98.8	98.3	99.1	100.4	102.3	93.9
1992 .....	104.5	104.1	104.9	100.4	100.8	101.4	97.7
1993 .....	105.1	104.1	108.4	101.2	102.2	102.7	98.5
1994 .....	101.2	104.7	106.7	105.4	101.9	102.7	97.3
<b>Average annual percent change:</b>							
1987-94 .....	2.3	2.4	1.2	-1.0	-1.1	-8	-2.5
1980-94 .....	1.1	2.2	2.4	1.3	.2	.2	.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

**Table 11. Sausages and other prepared meats (SIC 2013): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	71.0	69.8	47.7	67.2	68.3	68.0	69.1
1971 .....	77.0	75.2	54.1	70.2	71.9	72.0	71.6
1972 .....	77.4	78.8	57.7	74.5	75.3	75.4	74.9
1973 .....	67.2	66.1	50.0	74.4	75.7	75.1	77.4
1974 .....	74.8	74.3	57.1	76.3	76.9	75.3	81.1
1975 .....	71.5	71.0	53.8	75.0	75.5	73.1	81.9
1976 .....	80.8	80.8	61.0	75.5	75.5	73.7	80.2
1977 .....	97.2	95.2	74.9	77.1	78.7	78.7	78.6
1978 .....	91.7	90.2	71.1	77.6	79.7	80.5	77.4
1979 .....	92.8	91.4	71.5	77.0	78.2	79.1	75.7
1980 .....	100.6	97.7	77.0	76.5	78.8	79.8	78.5
1981 .....	93.4	91.0	72.6	77.7	79.7	81.5	74.9
1982 .....	85.3	92.6	74.5	78.1	80.4	81.9	78.5
1983 .....	98.7	97.0	78.8	79.9	81.3	83.2	78.5
1984 .....	99.3	97.3	79.8	80.3	82.0	83.3	78.6
1985 .....	97.8	95.8	81.0	82.8	83.7	84.2	82.3
1986 .....	98.5	97.0	84.0	85.2	86.6	87.8	83.5
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	107.1	107.9	109.9	102.6	101.9	101.7	102.4
1989 .....	105.9	107.3	114.4	108.0	106.7	107.0	105.7
1990 .....	97.4	98.3	108.8	111.8	108.6	111.1	105.2
1991 .....	95.9	97.7	107.3	111.9	109.8	112.8	101.9
1992 .....	104.8	107.1	118.7	113.4	110.8	113.8	102.4
1993 .....	105.0	108.3	120.9	115.2	111.7	115.7	105.5
1994 .....	101.6	108.6	120.0	118.1	112.6	118.1	97.1
<b>Average annual percent change:</b>							
1987-94 .....	1.0	1.2	3.4	2.4	2.2	2.5	1.5
1980-94 .....	1.1	1.8	2.5	1.4	.7	1.5	-2.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

**Table 12. Poultry dressing and processing plants (SIC 2015): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	54.1	55.0	34.8	63.9	62.9	64.2	52.5
1971	65.2	64.4	39.3	60.2	61.0	62.0	53.1
1972	68.7	67.9	42.4	63.5	62.4	63.7	52.5
1973	58.0	58.1	37.8	65.2	65.1	66.4	54.3
1974	65.9	66.8	43.4	64.9	65.0	65.1	63.6
1975	67.6	65.9	41.1	60.8	62.4	62.1	64.9
1976	70.0	74.3	48.8	64.2	65.7	64.9	72.2
1977	76.9	74.4	46.3	64.1	66.3	66.6	64.2
1978	78.2	76.0	52.6	67.3	69.3	70.4	58.3
1979	81.7	80.3	59.0	72.2	73.5	74.2	68.5
1980	81.6	79.3	63.2	77.4	79.7	80.2	75.3
1981	99.5	95.8	69.5	77.7	81.0	82.7	98.8
1982	97.1	96.1	75.8	78.1	79.7	80.8	71.8
1983	100.9	98.5	78.2	77.5	78.6	79.4	72.8
1984	99.1	97.9	74.3	75.0	75.9	76.4	72.2
1985	100.5	99.5	78.5	78.1	78.9	79.9	70.9
1986	98.6	93.5	82.1	85.9	87.8	87.8	98.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.2	99.7	104.8	108.7	105.0	104.8	108.8
1989	105.2	108.9	121.4	115.5	110.5	110.5	108.9
1990	108.6	110.1	127.7	117.6	116.0	115.5	120.5
1991	115.4	115.7	137.3	118.9	118.6	117.5	129.8
1992	119.8	119.9	148.8	122.8	122.3	120.8	138.8
1993	119.8	121.0	153.6	128.2	128.9	125.1	144.7
1994	119.9	122.7	160.7	134.0	130.9	128.3	158.5
<b>Average annual percent change:</b>							
1983-94	2.3	2.5	5.9	3.5	3.3	3.2	4.8
1990-94	2.5	2.7	5.9	3.3	3.1	2.7	6.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 13. Dairy products (SIC 202): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	49.4	48.3	72.4	148.5	140.9	116.9	201.7
1971	53.7	52.8	75.5	140.7	143.0	113.4	189.4
1972	58.2	58.1	78.4	134.7	134.9	110.8	172.7
1973	60.0	60.1	77.5	129.2	129.0	107.3	163.1
1974	62.9	63.1	78.7	125.1	124.7	104.7	158.1
1975	66.5	66.8	80.5	121.1	120.5	101.2	151.0
1976	68.4	68.8	81.5	118.1	118.8	100.8	146.9
1977	69.6	70.3	82.2	118.1	118.8	100.3	142.6
1978	71.6	71.6	81.7	114.1	114.2	98.9	138.2
1979	73.2	72.9	81.7	111.6	112.0	98.8	132.8
1980	75.7	76.9	83.8	109.0	108.8	98.2	125.8
1981	82.8	82.1	88.8	105.1	105.7	95.8	121.3
1982	85.1	84.5	87.6	102.9	103.7	95.7	118.1
1983	88.4	88.8	91.0	101.8	102.4	98.3	112.0
1984	90.9	90.4	90.9	101.1	101.7	97.0	108.9
1985	92.8	93.0	94.0	101.3	101.1	98.2	105.8
1986	96.5	96.3	97.3	100.8	101.0	98.4	103.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.7	104.2	102.7	98.1	98.8	97.9	99.7
1989	104.9	104.4	102.1	97.4	97.8	98.0	97.8
1990	105.4	105.3	101.8	98.6	98.7	97.2	95.8
1991	108.2	108.1	104.5	98.6	98.7	97.8	95.0
1992	112.1	112.8	107.8	98.2	98.5	97.7	92.2
1993	110.3	111.4	106.1	98.2	98.2	98.7	98.8
1994	112.1	113.7	105.3	93.9	92.6	96.5	98.4
<b>Average annual percent change:</b>							
1987-94	3.7	3.7	1.4	-2.2	-2.2	-1.0	-3.6
1990-94	1.6	1.9	.5	-.7	-1.1	-.2	-2.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; the Bureau of Labor

**Table 14. Cheese, natural and processed (SIC 2022): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972 .....	71.5	72.8	48.8	67.9	66.7	70.0	55.4
1973 .....	72.1	73.6	49.9	66.2	67.7	70.9	56.4
1974 .....	77.3	79.7	55.0	71.2	69.1	71.3	61.7
1975 .....	79.1	82.0	56.3	71.2	68.7	69.7	64.9
1976 .....	79.3	81.7	50.5	76.2	74.0	74.8	71.3
1977 .....	78.1	78.8	50.7	78.4	75.9	76.7	73.5
1978 .....	75.1	76.0	50.0	79.8	78.9	78.4	76.8
1979 .....	75.1	75.5	52.5	83.2	82.8	83.8	78.8
1980 .....	79.3	79.7	60.4	87.5	87.1	87.1	87.3
1981 .....	88.9	88.9	77.4	87.1	87.1	88.1	80.4
1982 .....	90.3	90.1	80.0	88.6	88.8	88.8	86.7
1983 .....	86.8	86.2	80.4	92.8	93.2	92.1	88.8
1984 .....	85.1	85.2	80.2	94.3	94.2	92.7	88.8
1985 .....	88.2	88.8	84.7	98.0	95.8	95.9	94.7
1986 .....	93.5	93.3	91.1	97.4	97.8	98.5	101.1
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	99.8	99.8	101.5	101.7	101.9	100.8	108.4
1989 .....	102.6	102.6	104.8	101.9	101.9	101.3	104.3
1990 .....	108.2	108.4	109.2	100.9	100.7	100.8	101.1
1991 .....	114.8	115.5	115.7	101.0	100.2	100.8	98.9
1992 .....	121.8	123.5	122.0	100.2	98.8	100.3	93.8
1993 .....	115.5	117.8	115.9	100.4	98.5	102.8	94.0
1994 .....	117.5	119.5	114.5	97.5	95.9	100.9	78.7
Average annual percent change:							
1972-94 .....	2.3	2.3	4.0	1.7	1.7	1.7	1.8
1988-94 .....	2.1	2.5	1.2	-0	-1.2	.1	-0.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 15. Fluid milk (SIC 2026): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1970 .....	43.4	92.4	208.1	213.0	
1971 .....	48.9	93.9	196.8	200.4	
1972 .....	51.2	96.5	186.7	188.4	
1973 .....	54.6	94.4	95.8	175.5	178.3
1974 .....	55.7	95.4	93.1	167.1	167.9
1975 .....	59.6	98.4	98.0	161.0	161.5
1976 .....	61.4	91.0	95.8	158.1	157.0
1977 .....	61.7	92.3	96.4	154.8	153.2
1978 .....	65.3	95.0	95.1	145.8	146.3
1979 .....	70.0	98.4	98.0	138.7	138.8
1980 .....	74.8	74.2	94.8	128.8	127.7
1981 .....	78.2	77.1	94.0	120.2	122.0
1982 .....	81.1	79.8	93.6	115.5	117.2
1983 .....	85.5	84.8	96.1	111.2	112.4
1984 .....	88.9	88.1	97.0	109.1	110.1
1985 .....	92.0	91.9	99.3	107.9	106.1
1986 .....	98.0	98.9	100.2	104.4	104.5
1987 .....	100.0	100.0	100.0	100.0	100.0
1988 .....	102.3	101.7	98.1	95.8	98.5
1989 .....	103.7	103.0	97.4	93.9	94.8
1990 .....	103.3	102.4	95.2	92.1	92.9
1991 .....	104.3	103.4	94.4	90.5	91.3
1992 .....	104.0	104.3	93.0	89.4	89.1
1993 .....	107.1	107.3	93.2	87.0	88.9
1994 .....	113.3	113.7	94.1	83.1	82.8
Average annual percent change:					
1988-94 .....	4.0	4.0	.5	-3.4	-3.4
1980-94 .....	2.3	2.7	-3	-2.5	-2.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Economic Research

Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 16. Preserved fruits and vegetables (SIC 203): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	85.5	85.5	87.1	102.5	102.5	108.2	94.8
1971	88.0	88.8	70.9	104.3	103.1	108.5	87.8
1972	70.1	70.9	75.7	108.0	108.8	110.8	88.2
1973	78.0	78.8	82.2	108.1	107.1	110.0	93.7
1974	75.0	75.9	79.7	108.2	105.0	108.3	94.9
1975	77.2	77.3	78.5	101.7	101.8	105.7	82.0
1976	82.4	81.2	82.2	98.8	101.3	105.3	82.8
1977	82.2	82.4	88.5	107.6	107.4	110.1	95.0
1978	84.3	83.8	92.9	110.2	110.8	114.5	94.4
1979	81.0	81.1	90.8	111.9	111.7	114.4	98.7
1980	82.9	84.3	90.3	108.9	107.1	108.3	101.7
1981	81.5	82.6	86.0	105.5	104.1	105.9	98.5
1982	88.5	87.9	88.5	100.0	100.8	101.1	98.1
1983	91.9	92.1	90.5	98.4	98.2	98.3	97.8
1984	92.6	92.9	93.2	100.8	100.3	101.2	98.1
1985	94.3	92.7	93.8	99.5	101.2	101.5	100.0
1986	98.9	98.2	97.3	98.4	101.1	101.0	101.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	97.4	97.8	99.7	102.3	101.9	101.0	105.9
1989	98.3	100.4	105.3	107.2	105.0	104.8	105.8
1990	98.2	99.5	105.9	110.0	108.4	107.8	101.0
1991	99.9	103.1	111.8	111.7	108.2	108.9	100.0
1992	101.3	104.1	111.0	108.5	108.6	108.8	98.3
1993	107.2	109.7	116.3	108.4	108.0	107.4	98.0
1994	108.4	112.3	118.6	109.4	105.8	108.9	99.8
<b>Average annual percent change:</b>							
1947-94	2.7	2.7	3.2	.4	.4	.3	1.5
1980-94	3.0	3.1	2.9	-1	-2	-2	-3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 17. Canned fruits and vegetables (SIC 2033): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	57.4	58.8	83.8	148.1	148.0	153.1	118.8
1971	59.3	59.8	86.5	146.0	144.7	148.8	117.8
1972	83.9	83.7	87.8	137.4	137.9	141.9	114.8
1973	70.1	70.1	95.5	138.2	138.2	140.4	110.3
1974	70.3	70.8	92.9	132.1	131.2	138.8	88.6
1975	70.8	71.2	91.5	129.3	128.5	135.0	90.8
1976	77.9	74.8	94.4	121.2	128.2	132.2	92.8
1977	75.9	75.2	95.5	125.9	127.0	131.0	104.2
1978	77.5	75.2	95.8	123.3	127.1	131.8	100.0
1979	77.5	78.3	99.3	128.1	128.8	128.7	114.8
1980	77.8	78.3	95.9	123.3	122.5	123.2	119.8
1981	78.7	75.9	91.4	118.1	120.3	122.9	104.2
1982	81.8	81.4	88.1	108.0	108.3	108.4	102.0
1983	88.8	88.4	88.8	98.7	100.2	100.2	100.0
1984	87.4	88.9	82.3	105.8	108.2	108.8	108.4
1985	92.8	91.2	94.7	102.1	103.9	103.3	107.2
1986	99.1	94.4	97.9	98.8	103.7	103.5	104.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.7	99.7	108.1	103.5	102.4	101.9	104.4
1989	92.9	98.1	104.1	112.1	108.3	108.7	101.5
1990	93.8	98.2	108.0	115.1	110.1	113.1	94.8
1991	100.1	103.8	115.0	114.9	110.8	113.8	97.0
1992	101.5	105.5	111.8	110.2	108.1	107.8	97.8
1993	108.8	110.7	113.0	108.1	102.1	102.4	100.7
1994	101.9	107.3	108.9	108.9	101.5	101.5	101.5
<b>Average annual percent change:</b>							
1958-94	2.7	2.8	1.4	-1.2	-1.4	-1.5	-7
1980-94	2.1	2.2	.2	-1.8	-2.0	-2.7	1.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 18. Frozen fruits and vegetables (SIC 2037): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	74.8	80.0	88.8	92.2	86.0	87.9	74.1
1973	77.9	83.0	73.5	94.3	88.5	89.5	82.8
1974	81.7	88.1	78.8	93.8	89.0	91.2	78.8
1975	88.7	88.6	77.1	95.9	88.0	88.1	72.8
1976	98.8	101.7	82.2	93.4	90.8	92.3	72.8
1977	98.2	90.8	85.2	98.8	94.0	97.0	75.8
1978	94.8	101.3	94.4	98.8	93.2	98.3	74.1
1979	85.1	84.9	88.5	104.0	104.2	105.8	88.8
1980	87.0	93.4	90.1	103.8	98.5	98.3	87.2
1981	94.5	90.3	88.8	104.9	98.1	98.8	87.2
1982	98.4	97.5	93.4	98.9	95.8	97.0	88.8
1983	102.1	101.3	98.3	91.3	95.0	95.5	91.4
1984	99.7	100.7	94.9	98.2	94.2	98.3	81.4
1985	95.2	94.8	87.7	92.1	92.5	94.0	84.2
1986	103.3	99.9	93.1	90.1	93.2	93.7	90.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	94.0	94.2	95.8	101.9	101.8	101.2	105.0
1989	98.0	100.0	103.1	105.2	103.1	103.5	100.0
1990	90.0	92.9	98.1	108.8	103.5	102.8	110.0
1991	94.6	97.4	100.4	108.1	103.1	102.3	108.3
1992	98.4	99.8	101.4	105.1	101.8	101.8	101.7
1993	102.8	106.1	108.1	105.1	101.8	101.4	105.0
1994	108.6	113.9	114.5	104.5	100.8	100.2	103.3
<b>Average annual percent change:</b>							
1972-94	1.8	1.8	2.3	.8	.7	.8	1.5
1980-94	5.0	5.2	4.5	-5	-7	-6	-1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 19. Grain mill products (SIC 204): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	54.8	54.3	81.7	112.7	113.7	117.2	108.7
1971	57.0	58.3	81.1	107.2	108.5	112.8	99.7
1972	57.8	58.4	65.5	113.7	112.1	115.8	104.1
1973	63.5	55.8	81.9	115.7	111.0	115.1	102.8
1974	57.1	57.1	65.5	114.7	114.7	118.7	105.8
1975	57.3	57.7	66.2	115.5	114.8	119.3	105.3
1976	59.9	60.0	60.3	115.7	115.4	118.4	101.1
1977	66.6	65.8	74.8	112.3	113.8	117.2	108.1
1978	68.0	65.1	76.1	115.3	116.9	119.7	110.8
1979	67.4	67.3	77.4	114.8	115.0	119.4	105.8
1980	70.9	70.3	80.8	113.7	114.7	118.3	107.0
1981	75.0	75.4	83.1	110.8	110.2	112.3	105.0
1982	81.5	79.5	86.0	105.5	108.2	110.1	104.1
1983	83.5	81.7	87.1	104.4	108.7	108.4	103.0
1984	87.8	85.5	88.2	100.5	103.2	104.0	101.9
1985	92.5	90.2	90.3	97.8	100.1	99.8	100.8
1986	95.5	94.4	92.3	98.8	97.7	97.0	99.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.0	100.9	101.8	101.8	100.7	101.8	99.8
1989	101.9	103.8	108.4	108.4	104.7	103.1	108.0
1990	108.0	107.8	110.1	103.9	102.1	102.8	101.2
1991	108.7	108.0	111.0	104.1	102.7	103.7	100.8
1992	104.4	107.0	112.2	107.5	104.9	105.4	103.7
1993	109.4	112.7	116.8	106.5	103.4	105.1	99.7
1994	110.5	113.9	118.4	106.3	102.1	103.3	99.7
<b>Average annual percent change:</b>							
1983-94	3.1	3.1	2.7	-3	-4	-4	-3
1980-94	1.0	1.4	1.4	-3	-6	-2	-4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; Agricultural Marketing

Service, U.S. Department of Agriculture; the Rice Millers' Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 20. Flour (including flour mixes) and other grains (SIC 2041, 2045): Indexes of output per hour and related measures, 1970-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	70.4	70.7	84.3	119.7	119.2	119.8	117.4
1971	72.6	73.0	80.8	111.2	110.8	113.7	102.9
1972	72.5	75.0	81.9	113.0	108.2	111.7	102.9
1973	72.0	75.2	85.9	119.3	114.2	118.7	102.9
1974	77.3	77.5	88.9	114.9	114.8	119.3	102.9
1975	76.5	76.7	90.3	118.1	117.8	119.8	112.2
1976	76.1	76.8	89.8	117.9	118.9	114.8	122.3
1977	83.8	84.1	91.8	109.5	102.2	108.4	111.1
1978	81.7	82.6	90.8	110.9	108.7	110.5	107.9
1979	78.3	81.5	88.6	113.2	108.8	109.9	108.2
1980	80.2	81.4	87.4	109.0	107.4	108.0	102.9
1981	80.6	82.7	88.1	108.3	108.5	107.9	102.9
1982	93.1	90.5	90.2	98.9	98.8	102.8	91.7
1983	95.8	95.8	95.2	99.8	99.8	100.5	97.2
1984	96.8	95.4	91.8	94.6	96.0	98.4	93.4
1985	97.0	95.3	90.8	93.6	95.3	98.1	93.0
1986	97.8	98.0	93.0	95.0	98.8	97.7	94.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.1	102.3	102.3	101.2	100.0	100.8	98.8
1989	98.0	101.2	102.4	103.5	101.2	99.4	105.5
1990	103.9	105.7	102.8	99.0	97.2	98.9	93.2
1991	105.8	107.8	108.5	100.7	98.8	100.0	95.9
1992	99.5	102.1	116.1	116.7	113.8	117.7	104.1
1993	110.2	114.6	124.1	112.6	108.3	111.0	101.4
1994	112.8	118.0	125.0	110.8	105.9	108.4	97.3
<b>Average annual percent change:</b>							
1983-94	2.3	2.3	1.5	-8	-8	-7	-9
1980-94	2.1	2.8	5.0	2.9	2.2	2.8	1.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 21. Flour and other grain mill products (SIC 2041): Indexes of output per hour and related measures, 1970-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	84.1	84.9	92.7	144.8	142.8	138.4	158.0
1971	85.4	88.1	89.5	138.8	135.3	133.4	121.3
1972	89.0	71.4	86.4	125.1	121.0	120.2	123.6
1973	88.5	70.3	88.8	131.1	127.7	128.2	128.7
1974	71.0	71.1	93.1	131.0	130.9	131.2	129.6
1975	72.4	71.9	95.5	132.0	132.9	130.3	141.3
1976	71.4	70.8	93.2	130.5	131.8	138.3	147.1
1977	84.5	84.4	99.0	117.1	117.3	114.2	126.7
1978	84.9	85.8	97.4	114.8	113.5	112.1	117.6
1979	80.5	82.8	95.2	118.2	115.0	113.1	120.6
1980	77.7	80.4	93.8	120.8	116.8	114.2	123.6
1981	78.1	80.5	95.5	122.3	118.7	117.3	123.8
1982	85.9	85.7	97.3	111.9	113.8	115.2	108.8
1983	88.6	92.1	101.8	112.4	110.3	110.1	111.9
1984	91.7	91.5	96.8	104.3	104.5	104.1	105.9
1985	95.8	95.0	95.0	99.2	100.0	99.1	102.9
1986	85.9	85.5	96.9	101.0	101.5	100.0	105.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.5	104.2	101.1	98.7	97.0	98.6	94.1
1989	102.5	104.4	100.5	98.1	98.2	93.9	102.9
1990	107.9	108.7	102.1	94.7	94.0	93.9	94.1
1991	108.3	110.3	105.3	97.2	95.5	98.0	94.1
1992	111.9	115.7	114.0	101.8	98.5	98.0	105.9
1993	122.2	125.2	126.1	103.2	100.8	100.0	102.9
1994	126.8	133.1	127.1	100.2	95.5	92.9	102.9
<b>Average annual percent change:</b>							
1947-94	3.1	2.9	.5	-2.5	-2.4	-2.5	-1.9
1980-94	4.1	5.2	5.6	1.4	.4	-3	2.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 22. Cereal breakfast foods (SIC 2043): Indexes of output per hour and related measures, 1970-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	62.3	58.8	44.1	70.8	75.0	75.0	72.4
1971	61.6	58.9	46.0	74.7	78.2	78.0	76.0
1972	65.9	62.3	50.1	76.0	80.5	81.8	78.0
1973	65.1	65.2	53.4	81.4	81.9	84.1	72.4
1974	61.9	60.3	52.3	94.5	98.7	98.0	79.2
1975	64.9	64.7	58.1	98.5	98.7	98.6	79.2
1976	69.0	65.4	61.4	99.0	93.8	98.4	62.7
1977	69.1	67.2	68.8	99.5	102.4	105.5	68.8
1978	69.8	65.7	68.1	97.9	103.7	108.8	69.8
1979	74.2	70.4	71.7	96.7	101.9	107.8	76.0
1980	74.2	71.1	70.6	95.2	99.3	104.7	76.0
1981	75.6	72.6	70.8	93.7	97.5	102.3	76.0
1982	80.4	74.9	73.0	90.8	97.5	97.8	86.5
1983	84.2	78.9	80.4	95.5	101.9	101.7	103.5
1984	92.8	87.8	88.9	95.8	101.2	100.9	103.5
1985	97.1	92.9	94.7	97.5	101.9	101.7	103.5
1986	98.6	95.9	98.1	99.5	102.3	101.7	108.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.6	100.5	103.6	105.1	103.1	105.3	93.1
1989	95.5	98.5	103.8	108.8	104.4	104.8	103.4
1990	100.2	101.8	104.3	104.1	102.5	102.3	103.4
1991	102.3	101.0	101.7	90.3	100.8	99.2	108.9
1992	99.1	102.9	103.5	104.5	100.8	100.0	103.4
1993	95.5	96.5	106.1	111.1	110.0	109.9	110.3
1994	106.6	108.2	115.8	108.5	108.9	107.8	103.4
<b>Average annual percent change:</b>							
1983-94	2.2	2.5	3.8	1.6	1.3	1.3	1.3
1980-94	1.6	1.5	2.6	1.0	1.1	1.3	.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 23. Rice milling (SIC 2044): Indexes of output per hour and related measures, 1970-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	61.2	64.2	59.9	97.9	93.3	95.8	120.0
1971	62.9	65.8	55.4	98.1	94.5	90.0	100.0
1972	70.2	73.0	94.8	92.4	98.8	95.8	100.0
1973	59.3	62.4	54.1	91.3	98.7	92.9	100.0
1974	68.4	66.2	84.7	94.6	97.8	100.0	90.0
1975	65.8	66.8	65.1	98.9	97.8	100.0	90.0
1976	69.1	69.9	69.8	101.1	104.4	103.7	90.0
1977	71.9	72.8	77.4	107.8	108.8	114.3	80.1
1978	68.6	67.3	76.2	114.3	113.2	108.7	130.0
1979	69.3	68.4	83.8	120.5	122.1	117.2	140.1
1980	80.4	81.5	101.4	126.2	124.4	120.1	140.1
1981	84.9	90.4	102.3	120.5	113.2	117.2	100.0
1982	75.1	74.2	92.3	122.9	124.4	125.8	120.0
1983	72.3	71.5	85.7	118.8	119.9	117.2	130.0
1984	83.8	83.5	72.0	112.9	113.3	105.8	140.1
1985	66.6	67.1	73.0	108.5	108.8	100.0	140.1
1986	72.7	73.2	81.3	111.9	111.1	111.4	110.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	83.1	87.8	87.6	105.5	100.0	100.0	100.0
1989	97.5	100.0	108.9	111.8	108.8	108.8	110.0
1990	104.9	110.0	107.5	102.5	97.8	102.9	80.0
1991	90.3	104.2	99.8	100.3	95.8	100.0	80.0
1992	101.4	104.7	90.7	98.4	98.7	98.8	80.0
1993	129.5	136.4	117.3	90.8	98.7	91.4	70.0
1994	109.2	112.2	102.3	93.7	91.1	94.3	80.0
<b>Average annual percent change:</b>							
1983-94	2.9	2.8	2.7	-2	-2	.1	-1.0
1980-94	1.0	.5	-1.2	-2.2	-1.8	-2.2	.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; Agricultural Marketing

Service, U.S. Department of Agriculture; the Rice Millers' Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 24. Wet corn milling (SIC 2046): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	20.4	19.9	31.2	122.5	158.9	157.5	154.7
1971	20.8	19.2	29.0	141.2	151.2	152.3	148.2
1972	26.8	25.3	36.7	133.3	140.7	142.3	137.0
1973	24.1	22.2	31.5	131.0	136.1	130.0	129.8
1974	29.9	28.7	37.0	123.9	129.0	130.4	128.0
1975	30.8	29.9	37.9	122.8	128.7	133.8	111.2
1976	34.4	32.2	42.4	123.2	127.5	125.4	111.2
1977	41.2	38.8	48.2	119.4	126.7	122.1	114.8
1978	42.7	38.5	51.0	119.4	129.0	137.1	111.2
1979	47.1	44.0	55.2	117.2	125.5	127.1	122.3
1980	55.7	51.5	64.1	115.0	124.4	128.7	114.8
1981	63.0	59.0	71.4	113.4	120.9	125.4	111.2
1982	58.7	56.1	61.9	105.8	110.5	113.5	103.7
1983	63.7	62.6	64.8	101.7	103.5	108.7	98.5
1984	74.9	73.3	71.8	95.8	97.7	100.0	92.6
1985	74.8	73.3	74.2	98.8	101.2	103.3	98.5
1986	87.3	91.9	93.8	98.2	98.8	94.9	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.1	98.9	104.8	108.0	108.1	101.7	122.2
1989	103.6	104.5	117.8	113.8	112.8	106.1	129.8
1990	103.8	108.8	117.8	113.4	110.8	103.4	125.9
1991	100.4	104.2	120.0	119.5	115.1	108.5	129.8
1992	101.8	108.8	116.4	114.3	107.0	103.4	114.8
1993	111.9	115.2	120.5	107.7	104.7	103.4	107.4
1994	110.0	111.9	117.1	108.5	104.7	106.1	103.7
<b>Average annual percent change:</b>							
1983-94	5.7	5.8	4.5	-1.1	-1.2	-1.8	-6
1980-94	1.5	1.2	-1	-1.8	-1.3	.4	-4.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Corn Processors Association, the Bureau of the Census, and the Bureau of Labor Statistics.

**Table 25. Prepared feeds for animals and fowls (SIC 2047, 2048): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	58.2	58.1	68.7	118.8	118.9	130.1	101.2
1971	60.0	59.7	67.8	112.8	113.3	134.0	95.6
1972	57.2	59.5	72.3	128.4	121.4	138.0	104.8
1973	51.8	55.5	65.3	128.8	117.8	126.7	103.7
1974	54.5	55.8	68.7	126.1	123.8	132.2	109.7
1975	54.5	58.8	68.8	126.7	122.8	132.0	108.1
1976	57.8	60.8	71.9	124.5	120.8	128.7	108.1
1977	65.8	68.8	77.8	118.3	118.3	124.7	108.1
1978	65.0	68.3	80.7	124.1	122.8	128.8	115.5
1979	68.5	67.2	81.0	121.8	120.8	128.8	108.1
1980	69.1	69.3	84.0	121.5	121.2	127.3	111.4
1981	74.0	75.8	95.5	116.9	114.4	116.8	110.8
1982	84.2	83.5	95.8	113.5	114.4	117.8	109.2
1983	85.2	83.7	93.2	109.4	111.3	115.3	104.8
1984	89.2	87.0	93.7	105.1	107.8	108.3	105.2
1985	98.9	94.8	98.8	98.8	101.0	100.5	102.2
1986	95.2	94.8	98.8	98.2	98.8	93.3	98.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.5	101.4	103.3	98.8	98.0	100.7	98.2
1989	103.7	104.2	108.2	105.2	104.8	108.7	108.5
1990	107.0	108.4	112.3	104.9	103.8	104.8	101.8
1991	108.0	108.1	113.4	105.0	104.0	107.5	98.4
1992	108.1	109.3	112.5	104.0	108.9	102.7	103.2
1993	110.7	114.0	114.0	103.0	103.0	101.4	97.8
1994	108.5	111.7	110.8	102.1	99.2	99.3	100.5
<b>Average annual percent change:</b>							
1983-94	3.1	3.1	2.8	-4	-4	-8	-2
1980-94	.3	.8	-3	-7	-1.1	-1.8	-3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 26. Bakery products (SIC 205): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	77.3	77.8	92.0	119.1	118.3	125.5	108.7
1971	79.2	80.2	91.7	115.8	114.3	119.3	107.7
1972	82.8	84.1	95.3	115.1	113.2	118.5	108.1
1973	82.3	83.9	94.4	114.8	112.5	118.4	104.8
1974	82.0	82.0	93.1	113.8	113.8	116.2	109.9
1975	82.0	82.2	93.8	114.4	114.2	116.4	111.4
1976	82.4	83.0	98.8	117.4	116.8	120.1	112.0
1977	87.7	88.1	94.4	107.8	107.1	109.2	104.2
1978	95.9	95.8	93.8	109.4	109.3	110.2	108.2
1979	93.8	94.4	94.3	112.5	111.7	114.8	107.8
1980	92.4	93.4	92.4	112.2	110.8	115.3	104.8
1981	94.4	95.9	92.3	108.4	107.5	110.8	102.8
1982	90.3	90.2	94.3	104.4	104.5	103.1	105.5
1983	93.3	93.0	92.7	99.4	99.7	99.7	99.8
1984	93.4	93.5	94.3	101.0	100.9	100.4	101.8
1985	95.8	95.9	98.8	101.0	100.7	98.0	104.7
1986	100.1	100.8	98.3	98.2	98.7	98.7	98.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	93.4	93.3	95.3	102.1	102.2	101.7	102.8
1989	91.0	90.9	94.9	104.3	104.3	103.1	108.0
1990	93.2	93.9	91.5	98.2	97.4	101.1	92.2
1991	90.2	90.3	98.9	98.8	98.4	102.8	92.0
1992	90.4	90.7	98.8	100.5	99.0	104.2	91.8
1993	90.3	91.1	91.9	101.8	100.8	108.5	92.7
1994	91.0	92.9	94.9	104.3	102.1	107.7	94.1
<b>Average annual percent change:</b>							
1947-94	1.3	1.2	.8	-7	-8	-8	-3
1980-94	-8	-3	.9	1.5	1.2	1.6	.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 27. Sugar (SIC 2061, 2062, 2063): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	89.3	85.8	107.8	155.2	163.9	172.5	133.1
1971	89.3	89.1	109.0	157.4	157.7	164.2	133.1
1972	73.4	72.2	113.9	155.2	157.7	163.5	135.4
1973	79.0	79.4	116.7	147.8	148.9	148.9	135.0
1974	79.4	81.9	119.0	148.9	146.3	150.4	134.7
1975	78.7	72.5	113.5	149.9	148.8	157.7	132.5
1976	78.7	78.2	125.3	159.3	160.2	160.1	139.8
1977	85.9	84.0	126.9	147.7	151.0	148.8	134.8
1978	85.8	82.0	118.3	137.8	144.2	143.4	147.5
1979	89.9	89.9	116.9	130.0	134.8	133.8	137.4
1980	89.6	85.1	115.5	130.3	136.7	138.3	132.4
1981	89.9	83.8	117.3	135.0	140.2	141.5	135.0
1982	77.1	73.8	98.0	127.2	133.2	132.6	135.0
1983	84.8	82.1	98.3	113.5	117.3	118.8	112.4
1984	85.7	83.2	97.6	113.9	117.3	117.9	115.0
1985	87.8	87.3	91.2	104.1	104.5	104.4	105.0
1986	80.7	82.1	93.1	102.7	101.1	100.0	105.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	90.1	90.0	98.1	98.0	98.1	100.8	93.9
1989	88.6	101.9	103.3	104.8	101.4	102.4	98.0
1990	104.2	108.0	104.5	100.3	98.8	98.4	95.9
1991	107.5	112.1	112.8	104.8	100.5	101.8	95.9
1992	110.9	113.7	113.2	102.1	99.5	102.4	98.8
1993	114.8	117.8	114.4	98.6	97.2	101.8	91.6
1994	115.0	120.2	112.4	97.8	93.5	98.4	93.7
<b>Average annual percent change:</b>							
1947-94	3.2	3.3	1.5	-1.7	-1.8	-1.9	-1.1
1980-94	2.5	3.2	1.8	-8	-1.3	-8	-3.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service and Statistical

Reporting Service, U.S. Department of Agriculture; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 28. Raw and refined cane sugar (SIC 2061, 2062): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	73.8	71.8	110.4	149.8	153.7	150.1	150.8
1971	70.5	71.3	110.9	157.3	155.5	152.5	150.8
1972	72.2	73.8	113.9	157.7	154.7	150.1	170.5
1973	78.5	79.7	121.2	154.4	152.0	150.1	150.5
1974	80.9	82.9	127.4	157.4	153.7	148.0	174.1
1975	76.5	74.8	117.5	153.8	157.1	151.3	177.9
1976	81.5	81.7	128.3	157.3	157.1	152.5	174.1
1977	93.3	90.4	140.6	180.7	155.5	150.1	174.1
1978	93.3	90.6	135.4	145.1	148.4	144.8	150.8
1979	98.4	94.2	135.1	140.2	143.5	142.3	146.1
1980	98.1	94.7	135.2	140.8	142.8	142.3	144.5
1981	95.1	93.9	138.0	145.1	147.0	147.9	144.5
1982	83.2	81.5	110.0	132.3	135.0	132.3	144.5
1983	93.1	88.6	114.9	123.4	129.7	132.3	122.3
1984	98.1	98.5	108.4	122.8	126.5	126.7	126.0
1985	98.6	94.5	101.7	105.2	107.8	107.8	107.5
1986	98.9	97.8	99.2	102.4	101.8	101.2	103.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	99.7	103.4	98.3	98.7	98.1	97.8	91.4
1989	101.8	109.8	108.9	107.0	98.2	101.1	94.3
1990	107.7	113.9	108.5	101.7	98.1	97.8	91.4
1991	110.3	120.1	116.4	105.5	98.9	98.9	91.4
1992	111.7	115.8	111.1	99.5	98.1	98.8	98.8
1993	120.2	126.8	110.8	92.2	87.5	91.4	77.1
1994	111.8	122.7	105.4	94.3	85.9	88.2	80.0
<b>Average annual percent change:</b>							
1988-94	3.0	3.4	1.1	-1.9	-2.2	-2.2	-2.4
1980-94	.9	1.9	-9	-1.9	-2.8	-2.8	-3.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service and Statistical

Reporting Service, U.S. Department of Agriculture; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 29. Beet sugar (SIC 2063): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	70.4	65.7	107.2	152.3	183.2	175.7	100.0
1971	73.5	73.8	108.4	144.7	144.2	158.1	94.8
1972	80.3	76.4	111.2	138.4	145.5	157.8	94.8
1973	75.9	75.2	106.5	139.0	140.4	151.8	94.8
1974	71.3	68.4	101.2	141.9	148.0	159.2	92.4
1975	74.3	69.8	109.3	147.1	157.0	168.8	107.7
1976	78.7	78.4	125.8	163.8	184.4	172.8	123.2
1977	75.3	74.9	108.0	143.4	144.2	150.0	115.3
1978	73.8	66.5	93.8	128.8	138.8	142.4	107.8
1979	78.3	74.1	90.9	118.0	122.7	122.7	123.2
1980	76.2	60.7	87.2	114.5	125.2	128.8	107.8
1981	73.5	67.4	87.9	119.8	130.4	133.3	116.3
1982	70.4	64.6	84.2	119.8	130.4	133.3	115.3
1983	69.7	66.4	86.5	98.2	98.7	100.0	92.4
1984	79.7	77.3	80.2	100.8	103.8	108.0	92.4
1985	73.4	74.7	74.7	101.8	100.0	100.0	100.0
1986	60.8	62.8	82.8	102.4	100.0	98.5	107.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	97.6	92.6	95.7	98.1	103.4	104.0	100.0
1989	92.1	89.4	93.5	101.5	104.5	104.0	107.1
1990	97.6	93.8	95.9	98.3	102.2	101.3	107.1
1991	102.3	100.5	106.1	103.7	105.8	105.3	107.1
1992	110.8	112.3	117.3	105.9	104.5	108.7	92.9
1993	108.8	109.1	121.3	110.5	111.2	114.7	92.9
1994	122.7	120.8	126.2	102.9	104.5	108.7	92.9
<b>Average annual percent change:</b>							
1988-94	2.8	2.6	2.0	-8	-8	-7	-2
1980-94	5.9	6.5	7.1	1.1	.8	1.3	-3.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service, U.S. Department

of Agriculture; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 30. Malt beverages (SIC 2082): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	32.7	32.1	58.1	177.4	180.7	188.0	212.3
1971	34.8	33.8	60.7	175.8	179.8	184.5	217.8
1972	38.9	38.9	63.2	162.4	162.6	149.3	194.8
1973	43.3	43.4	67.4	155.7	155.1	149.3	168.3
1974	44.8	45.3	71.7	160.1	158.1	153.0	170.4
1975	50.4	50.0	74.3	147.6	148.8	145.0	157.2
1976	55.7	55.8	78.3	136.9	134.7	130.0	148.3
1977	58.2	58.0	80.4	136.3	136.8	137.8	141.8
1978	59.0	59.4	85.5	146.0	143.8	141.8	148.4
1979	63.8	63.8	88.0	138.0	138.5	138.5	138.8
1980	67.1	67.8	92.0	137.1	138.2	136.0	138.8
1981	68.2	68.0	93.8	137.2	137.7	133.3	149.5
1982	70.4	69.7	94.9	134.8	136.1	130.5	148.5
1983	75.0	73.8	94.7	128.3	128.3	126.1	134.1
1984	77.7	75.4	92.2	118.8	122.3	121.4	125.3
1985	73.7	72.8	92.6	125.6	127.2	119.8	146.2
1986	85.0	87.1	93.4	108.8	107.2	108.8	101.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	99.1	99.3	101.2	102.1	102.0	99.8	107.2
1989	105.2	108.4	105.9	100.8	99.5	98.1	105.2
1990	110.8	111.9	108.4	98.0	98.8	91.8	105.2
1991	109.8	110.1	107.9	98.5	98.0	92.8	107.2
1992	113.4	114.1	111.0	97.9	97.3	92.8	105.2
1993	112.5	111.9	107.8	95.8	98.3	94.2	100.0
1994	118.8	121.7	110.7	94.8	91.0	94.9	94.3
<b>Average annual percent change:</b>							
1947-94	5.1	5.0	2.8	-2.3	-2.2	-2.1	-2.4
1980-94	1.4	2.1	.5	-8	-1.5	.8	-5.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S.

Department of the Treasury, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 31. Bottled and canned soft drinks (SIC 2086): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	43.6	42.3	46.7	107.2	110.4	126.7	102.5
1971	46.0	45.2	46.2	105.9	108.9	125.0	101.0
1972	47.0	46.7	50.2	106.9	107.4	122.1	100.2
1973	49.2	49.0	53.3	106.3	108.7	122.9	101.9
1974	50.8	50.5	54.2	108.8	107.3	122.7	100.0
1975	55.7	55.2	57.3	102.8	103.8	117.4	87.2
1976	59.2	58.7	63.9	107.8	106.7	121.4	102.5
1977	62.2	61.7	68.0	110.9	111.8	123.9	108.0
1978	64.2	63.9	73.8	114.7	116.2	125.9	109.9
1979	64.4	64.0	75.5	117.2	117.9	126.5	114.1
1980	66.5	66.2	77.4	116.3	116.8	120.4	114.8
1981	68.8	68.5	78.3	113.8	114.4	116.4	114.0
1982	71.1	70.5	79.4	111.8	112.7	112.2	113.0
1983	75.7	75.1	82.3	108.7	108.8	108.0	110.4
1984	81.8	80.9	87.2	106.9	107.8	107.0	108.1
1985	85.2	84.8	90.6	108.3	108.8	108.2	107.1
1986	91.4	91.0	95.5	104.5	104.9	103.6	105.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	109.8	108.8	104.5	95.1	95.4	98.9	94.8
1989	119.4	119.5	108.7	99.4	99.3	99.9	93.0
1990	128.7	127.4	109.5	98.4	95.9	98.3	95.7
1991	135.1	136.0	111.3	92.4	81.8	94.2	80.7
1992	144.2	144.9	113.0	78.4	78.0	84.8	74.8
1993	144.7	146.0	116.1	80.2	79.5	91.5	73.7
1994	147.8	150.2	121.1	81.9	80.7	95.9	73.3
<b>Average annual percent change:</b>							
1958-94	4.0	4.1	4.0	.0	-.1	-.1	-.1
1980-94	3.9	4.2	2.5	-1.3	-1.5	2.7	-3.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Sales Survey and Statistical Profile of the Soft

Drink Industry, National Soft Drink Association; the Annual Report of the Beverage Marketing Corporation; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 32. Fresh or frozen prepared fish (SIC 2022): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	100.8	97.5	63.8	63.4	95.4	95.9	97.1
1973	93.3	90.5	61.9	61.3	93.4	93.4	97.9
1974	108.0	101.7	65.8	62.1	94.7	94.1	97.9
1975	104.1	100.0	62.9	60.4	92.9	93.5	98.9
1976	100.7	99.0	64.3	63.8	94.9	95.3	98.5
1977	103.6	97.8	67.8	64.8	95.5	95.8	98.9
1978	110.4	104.5	67.1	68.0	92.9	94.8	92.1
1979	94.1	92.2	67.1	62.6	94.5	95.4	98.3
1980	103.2	97.9	91.3	88.4	93.2	94.2	97.5
1981	98.9	93.8	90.2	93.1	96.2	97.9	98.7
1982	97.3	93.3	91.8	94.2	98.2	98.7	98.3
1983	98.4	98.4	77.8	87.8	98.8	98.5	98.7
1984	99.4	98.2	77.0	86.1	98.3	98.3	98.8
1985	97.8	98.3	81.3	82.8	94.2	93.9	98.4
1986	91.2	88.0	85.3	83.6	95.9	93.8	107.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.0	99.3	104.2	104.2	105.0	103.1	118.1
1989	94.8	97.1	98.1	104.8	102.1	100.9	108.9
1990	98.9	94.3	105.4	118.8	111.8	111.7	112.5
1991	97.4	92.0	103.1	118.0	112.0	112.0	112.5
1992	95.8	103.1	111.5	116.6	108.1	104.9	128.8
1993	100.1	102.8	108.0	107.9	105.0	101.2	126.8
1994	94.3	100.6	104.5	110.9	103.9	100.8	123.2
<b>Average annual percent change:</b>							
1972-94	-3	.1	2.3	2.8	2.1	1.9	3.8
1980-94	1.5	1.6	-2	-1.7	-1.8	-2.8	2.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 33. Tobacco products (SIC 211, 212, 213): Indexes of output per hour and related measures, 1970-93  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	81.9	85.1	100.1	161.7	163.8	165.2	88.1
1971	85.7	88.4	98.8	150.4	144.3	173.4	94.2
1972	87.7	89.9	101.4	149.7	148.1	173.1	88.1
1973	88.7	71.4	108.4	157.7	151.9	180.0	74.0
1974	72.2	73.1	107.3	148.7	146.8	173.4	74.0
1975	76.9	78.1	109.8	142.8	140.8	163.0	78.0
1976	82.8	84.5	118.7	141.3	138.1	159.9	78.0
1977	81.0	80.7	106.5	131.5	131.9	151.2	78.0
1978	84.3	86.4	110.8	131.5	128.3	148.4	77.9
1979	84.5	88.8	112.0	132.5	129.3	145.0	88.0
1980	85.0	87.8	113.8	133.8	129.8	142.9	88.0
1981	84.0	85.7	118.9	138.1	138.4	160.2	88.0
1982	84.3	84.2	110.8	131.2	131.4	140.8	108.0
1983	88.3	85.2	105.1	121.8	123.3	129.1	107.0
1984	88.3	90.0	103.8	118.0	115.2	116.9	111.0
1985	91.2	88.9	101.1	110.9	112.4	118.5	104.0
1986	93.0	93.1	97.7	105.1	105.0	105.2	108.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.2	102.8	102.2	97.1	98.5	101.1	98.0
1989	108.4	104.4	97.5	91.8	93.4	95.0	98.0
1990	108.5	113.5	98.7	91.1	87.8	88.0	98.0
1991	110.0	108.5	93.8	85.1	88.2	88.3	98.0
1992	111.8	111.7	92.2	82.8	82.5	79.9	98.0
1993	99.0	98.0	77.5	78.3	80.7	78.8	98.0
<b>Average annual percent change:</b>							
1947-93	2.9	2.7	.4	-2.4	-2.2	-2.8	.7
1980-93	-3.3	-5.4	-8.1	-4.9	-2.8	-2.8	-2.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S.

Department of the Treasury; the Bureau of the Census; the Bureau of Labor Statistics; and the Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 34. Cigarettes, chewing and smoking tobacco (SIC 211, 213): Indexes of output per hour and related measures, 1970-83  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	75.5	80.2	93.8	124.0	116.7	140.2	52.8
1971 .....	79.1	82.8	92.8	117.3	112.1	133.8	53.7
1972 .....	79.4	82.3	98.5	121.8	117.3	130.4	58.7
1973 .....	79.4	83.1	104.4	131.5	125.7	140.0	65.3
1974 .....	81.5	83.6	104.0	127.5	124.4	144.9	68.4
1975 .....	85.8	87.4	107.8	125.8	123.1	141.4	72.5
1976 .....	90.0	92.8	115.2	128.1	124.4	142.9	73.7
1977 .....	88.1	87.8	105.1	119.3	119.8	136.5	75.8
1978 .....	91.7	94.7	109.7	119.7	115.9	130.7	75.8
1979 .....	90.4	93.3	111.3	123.1	119.3	132.0	84.2
1980 .....	89.7	93.0	113.1	128.1	121.8	132.4	91.8
1981 .....	87.9	88.8	118.8	132.7	130.1	141.8	97.9
1982 .....	87.6	87.4	110.5	126.1	126.4	134.0	105.3
1983 .....	90.0	88.7	104.8	116.4	118.1	122.4	105.3
1984 .....	91.3	92.5	103.2	113.1	111.8	111.9	110.4
1985 .....	93.8	92.4	100.8	107.7	108.1	111.1	103.2
1986 .....	95.4	95.5	97.4	102.1	102.0	101.8	103.2
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	104.8	102.5	102.2	97.5	98.7	101.2	95.8
1989 .....	108.7	104.9	97.5	91.4	92.9	95.0	97.4
1990 .....	109.9	114.3	98.7	90.7	87.3	86.7	91.8
1991 .....	111.8	110.8	93.3	83.7	84.4	83.3	87.4
1992 .....	113.4	113.8	92.1	81.2	81.0	78.3	88.4
1993 .....	101.8	98.1	77.2	78.1	78.8	78.7	84.2
<b>Average annual percent change:</b>							
1947-83 .....	1.8	1.3	.8	-1.0	-.7	-1.2	1.8
1980-83 .....	-2.8	-5.0	-8.2	-5.7	-3.4	-3.8	-2.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S.

Department of the Treasury; the Bureau of the Census; the Bureau of Labor Statistics; and the Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 35. Cotton and synthetic broadwoven fabrics (SIC 221, 222): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972 .....	64.9	64.8	99.1	152.8	153.4	153.8	149.4
1973 .....	58.1	57.4	88.6	154.3	158.3	158.3	155.1
1974 .....	60.0	57.1	88.5	147.5	154.9	154.7	155.1
1975 .....	66.1	61.8	88.8	134.4	144.2	144.1	145.3
1976 .....	66.1	63.6	99.5	150.5	158.4	158.8	152.1
1977 .....	75.4	72.3	110.7	148.8	153.1	153.2	151.0
1978 .....	70.5	68.4	99.9	141.8	146.1	145.9	147.3
1979 .....	75.8	73.7	107.3	141.9	145.5	145.8	143.2
1980 .....	78.4	75.6	107.3	138.9	141.9	141.9	142.3
1981 .....	80.7	77.1	104.4	129.4	136.3	134.8	141.8
1982 .....	85.5	75.5	90.4	105.8	119.7	117.8	138.8
1983 .....	82.8	80.1	103.1	111.1	115.8	114.9	124.0
1984 .....	91.1	85.4	100.8	110.4	118.4	115.8	121.4
1985 .....	94.8	88.6	92.8	97.8	104.5	103.9	109.4
1986 .....	101.1	98.3	95.9	94.9	97.8	97.4	99.5
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	100.0	97.4	97.5	97.5	100.1	98.9	101.8
1989 .....	103.9	101.1	98.5	92.9	95.5	95.0	99.5
1990 .....	108.1	102.9	92.2	85.3	88.7	88.8	89.0
1991 .....	113.8	108.4	92.2	81.0	85.1	83.8	85.8
1992 .....	118.4	115.5	95.9	81.0	83.0	81.2	88.0
1993 .....	125.8	122.5	100.2	79.8	81.8	79.1	105.2
1994 .....	133.8	131.6	104.5	78.1	79.4	78.8	102.1
<b>Average annual percent change:</b>							
1972-84 .....	3.3	3.3	.2	-3.0	-2.9	-3.1	-1.7
1980-84 .....	5.5	6.3	3.2	-2.2	-3.0	-3.5	.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 36. Hosiery (SIC 2251, 2252): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	58.2	51.8	80.8	143.7	158.0	158.7	134.9
1971	52.1	48.3	88.0	128.7	138.8	138.9	134.9
1972	60.8	58.2	72.5	119.8	124.8	124.4	125.8
1973	63.2	58.1	70.0	110.7	120.5	120.3	121.5
1974	70.8	64.5	83.4	98.5	98.3	97.8	101.2
1975	81.4	73.2	88.5	81.7	90.9	90.9	91.8
1976	91.3	85.5	73.8	90.6	90.0	88.1	89.7
1977	85.8	81.3	72.8	84.8	88.3	88.4	81.2
1978	87.8	84.0	77.8	88.7	92.7	92.2	87.8
1979	93.3	82.2	87.5	93.8	94.9	94.0	102.8
1980	91.7	80.2	85.8	93.3	94.8	93.2	108.0
1981	104.7	104.1	95.7	91.4	91.9	90.6	108.5
1982	97.8	92.2	88.0	90.0	95.4	95.1	98.6
1983	101.1	98.5	98.4	95.4	97.8	98.0	97.8
1984	102.4	100.2	98.2	98.9	98.0	98.1	113.5
1985	100.9	100.3	98.2	94.3	94.9	94.7	97.2
1986	102.5	102.8	98.4	98.8	98.8	98.3	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	108.1	107.4	108.1	98.1	98.7	98.7	90.7
1989	110.9	110.0	111.7	100.8	101.5	102.5	98.3
1990	109.2	105.8	105.0	98.2	98.3	98.1	101.3
1991	115.7	115.3	111.3	98.2	98.5	98.0	101.3
1992	122.2	120.7	116.8	98.8	98.8	97.0	94.7
1993	117.3	118.8	110.8	94.3	94.7	94.4	97.3
1994	128.1	125.8	116.9	92.7	92.9	91.6	104.0
<b>Average annual percent change:</b>							
1947-94	4.5	4.5	2.8	-1.7	-1.7	-1.8	-2
1980-94	3.7	4.4	2.7	-0.9	-1.7	-1.9	.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor

Statistics, and the National Association of Hosiery Manufacturers, Inc. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 37. Yarn spinning mills (SIC 2281): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	53.7	51.0	47.5	98.5	93.3	93.4	98.0
1971	58.1	57.7	55.8	95.7	98.3	98.1	75.6
1972	69.5	60.4	62.8	105.5	104.0	103.2	81.0
1973	55.9	55.5	61.6	110.2	111.0	113.3	98.3
1974	58.6	54.3	58.4	101.4	108.4	110.5	97.0
1975	67.4	60.9	57.7	85.8	94.7	95.4	97.5
1976	62.1	58.8	62.8	101.1	105.5	107.1	97.8
1977	66.3	64.7	68.8	105.4	107.9	109.0	98.2
1978	69.3	67.1	72.7	104.9	108.3	109.5	98.5
1979	68.3	68.3	68.6	100.5	103.5	104.6	91.5
1980	65.5	62.1	64.1	98.0	103.5	103.8	98.8
1981	67.8	63.4	63.0	92.9	98.3	98.7	98.9
1982	78.6	70.8	59.7	75.9	94.3	94.5	92.3
1983	65.2	62.7	70.0	92.2	94.7	95.1	81.1
1984	66.2	61.3	71.3	92.7	97.7	97.8	88.1
1985	69.6	63.6	67.9	75.8	81.2	81.2	79.8
1986	63.2	63.8	77.1	82.7	82.3	82.7	78.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.5	93.5	93.5	95.0	100.0	100.3	97.8
1989	103.3	97.4	95.2	92.2	97.8	97.8	100.0
1990	108.0	98.2	92.3	87.1	94.1	93.3	101.2
1991	105.5	98.8	90.4	85.7	91.5	90.6	100.0
1992	114.1	108.6	98.1	85.9	90.3	90.6	95.2
1993	120.0	114.9	101.7	84.7	88.5	88.3	90.4
1994	128.9	122.9	105.9	83.4	95.2	95.3	99.2
<b>Average annual percent change:</b>							
1980-94	3.7	4.0	4.2	.5	.2	.1	1.8
1980-94	4.8	5.8	3.5	-1.1	-2.2	-2.1	-3.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 38. Men's and boys' suits and coats (SIC 231): Indexes of output per hour and related measures, 1970-94  
(1967=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	84.1	83.0	130.2	202.9	208.7	209.7	198.8
1971	70.4	69.1	130.2	195.1	195.5	192.3	199.8
1972	79.3	80.4	157.5	195.8	195.9	200.5	170.0
1973	75.8	76.0	161.5	200.5	198.5	203.5	178.3
1974	80.3	77.0	142.2	177.1	184.7	187.1	171.3
1975	85.9	80.5	138.0	144.0	152.6	154.1	144.3
1976	89.8	89.8	140.3	198.8	198.2	180.0	134.8
1977	94.3	94.5	148.5	198.8	198.2	181.8	139.3
1978	90.6	90.9	141.0	185.7	185.2	189.2	139.3
1979	93.9	94.7	133.8	138.2	141.0	141.9	138.7
1980	90.3	90.8	121.7	134.8	134.0	128.6	120.9
1981	91.4	91.9	121.8	133.3	132.5	135.3	118.7
1982	98.8	98.2	112.1	128.5	130.1	122.5	115.7
1983	90.1	89.4	108.7	120.8	121.8	124.0	107.2
1984	93.2	94.2	114.7	123.1	121.8	124.4	108.0
1985	108.3	103.8	113.3	108.8	108.3	111.3	97.8
1986	103.5	101.7	104.8	101.0	102.8	103.2	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.4	104.8	104.2	101.7	98.7	100.8	94.0
1989	101.9	102.2	98.7	94.9	94.8	94.4	98.4
1990	98.7	98.1	84.7	85.8	85.4	84.7	98.4
1991	91.4	92.9	78.2	83.5	82.0	80.2	92.8
1992	102.4	102.8	79.0	77.1	76.8	75.0	88.0
1993	108.0	110.0	79.8	73.2	72.5	70.2	88.7
1994	130.1	130.9	88.8	88.3	87.9	85.7	80.7
<b>Average annual percent change:</b>							
1972-94	2.7	2.8	-1.8	-4.4	-4.3	-4.5	-3.0
1980-94	7.1	7.5	1.2	-5.5	-5.8	-4.2	-4.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 39. Housefurnishings, except curtains and draperies (SIC 2382): Indexes of output per hour and related measures, 1972-94  
(1967=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	82.5	80.2	72.7	88.2	80.7	88.3	88.7
1973	87.2	83.1	76.7	88.0	82.3	90.2	103.8
1974	77.7	72.3	83.3	81.5	87.5	94.1	108.4
1975	79.7	76.8	62.1	78.0	80.9	77.7	98.7
1976	77.8	75.8	67.0	88.4	88.8	88.7	108.1
1977	82.7	80.7	75.1	80.8	83.1	88.8	111.5
1978	77.9	76.4	76.8	88.8	100.8	98.8	111.5
1979	78.0	74.7	78.1	100.2	101.9	98.3	118.7
1980	74.5	72.4	70.0	94.0	88.7	98.8	114.1
1981	78.8	75.8	71.5	83.3	94.8	91.8	111.5
1982	82.6	79.7	72.5	97.8	90.9	98.8	108.8
1983	81.7	81.7	78.2	98.8	98.8	98.8	102.8
1984	83.8	82.3	83.1	98.4	101.0	101.4	98.7
1985	82.4	80.4	87.1	94.2	98.3	98.8	98.8
1986	83.8	82.4	88.7	94.7	98.8	98.8	98.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	89.8	88.7	100.3	100.4	101.5	101.4	102.8
1989	98.8	97.2	102.4	105.8	105.4	104.5	110.3
1990	101.3	100.1	105.0	103.7	104.8	102.7	118.7
1991	110.9	107.8	107.8	97.0	98.8	97.7	111.5
1992	117.9	115.4	114.9	97.4	98.8	98.8	108.8
1993	118.7	117.2	119.2	100.4	101.7	102.0	100.0
1994	115.4	113.8	123.0	107.4	108.1	108.3	107.7
<b>Average annual percent change:</b>							
1972-94	1.5	1.8	2.5	.9	.8	.9	.4
1980-94	3.3	3.2	4.2	.9	1.0	1.8	-2.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 40. Sawmills and planing mills, general (SIC 2421): Indexes of output per hour and related measures, 1970-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970.....	83.9	80.2	70.8	110.5	117.2	120.2	97.4
1971.....	85.0	81.5	70.3	108.2	114.3	118.4	95.0
1972.....	74.3	71.5	80.4	108.2	112.4	115.9	92.9
1973.....	88.3	85.8	77.0	112.8	117.1	120.7	98.7
1974.....	85.4	81.8	72.1	110.2	117.0	119.2	102.2
1975.....	88.2	84.3	88.3	101.5	107.7	110.2	92.8
1976.....	70.5	67.3	78.8	108.8	114.1	116.8	93.0
1977.....	89.8	87.3	79.5	113.9	118.1	120.7	101.0
1978.....	71.7	68.0	79.4	110.7	116.7	118.7	102.7
1979.....	73.3	68.8	82.1	112.0	119.2	121.2	103.3
1980.....	71.5	67.0	70.2	110.7	118.1	117.8	122.9
1981.....	73.9	69.0	74.9	101.4	108.8	103.1	111.9
1982.....	81.4	73.9	85.7	90.8	98.0	98.3	98.7
1983.....	88.7	81.1	78.2	90.1	98.4	98.7	92.7
1984.....	88.7	83.8	80.7	90.0	98.3	97.1	93.8
1985.....	83.5	88.7	81.5	87.2	91.9	92.9	95.4
1986.....	102.3	97.5	92.8	90.7	95.2	96.8	90.2
1987.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988.....	101.2	100.7	102.0	100.8	101.3	100.9	104.2
1989.....	100.1	99.0	98.7	98.8	98.7	98.7	107.3
1990.....	88.9	88.8	98.7	98.7	97.8	98.3	108.9
1991.....	102.9	101.5	91.8	99.2	90.4	98.3	108.3
1992.....	108.9	108.8	98.1	98.3	98.3	98.4	102.8
1993.....	101.5	102.3	90.7	98.4	98.7	97.0	101.8
1994.....	102.8	104.9	98.0	93.8	91.8	98.7	108.8
Average annual percent change:							
1980-94.....	2.6	2.9	1.2	-1.3	-1.5	-1.7	-1.1
1990-94.....	.7	1.5	-2	-8	-1.8	-1.8	.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor

Statistics, and the American Forest and Paper Association. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 41. Hardwood dimension and flooring mills (SIC 2426): Indexes of output per hour and related measures, 1972-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972.....	83.3	82.5	88.3	107.1	108.2	110.0	95.1
1973.....	84.0	81.9	87.0	103.8	108.2	107.4	97.6
1974.....	79.1	75.8	72.5	91.8	95.8	97.7	93.5
1975.....	100.1	95.1	72.2	72.1	75.9	75.8	70.0
1976.....	80.2	88.3	78.9	87.5	89.4	90.3	88.9
1977.....	88.9	87.4	82.0	91.2	93.8	94.8	97.8
1978.....	91.8	88.8	89.0	97.0	99.1	99.7	95.1
1979.....	83.0	80.7	81.4	98.1	100.9	100.3	104.9
1980.....	83.7	78.9	71.5	85.4	90.8	93.3	100.0
1981.....	88.1	82.4	71.5	83.1	88.8	88.3	97.6
1982.....	94.3	87.8	85.8	89.8	75.0	73.2	97.8
1983.....	88.2	85.7	71.3	80.8	83.2	82.8	97.8
1984.....	85.8	83.2	78.0	91.2	93.8	93.3	97.8
1985.....	95.1	92.0	85.1	88.4	92.4	92.0	95.1
1986.....	98.8	97.8	92.3	93.4	94.4	94.0	97.8
1987.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988.....	97.5	95.2	98.8	101.1	103.5	103.7	102.4
1989.....	98.9	94.0	98.0	102.2	105.3	105.0	107.3
1990.....	95.7	92.2	94.4	98.8	102.4	102.3	102.4
1991.....	98.8	94.4	90.5	91.8	95.9	95.3	103.0
1992.....	105.4	103.2	101.0	95.9	97.9	97.7	103.0
1993.....	111.2	110.2	112.8	101.5	102.4	101.7	107.2
1994.....	111.5	108.9	118.9	108.8	108.2	107.7	112.2
Average annual percent change:							
1972-94.....	1.3	1.3	1.3	.0	.0	-.1	.8
1990-94.....	3.9	4.5	5.9	2.0	1.4	1.3	2.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 42. Millwork (SIC 2431): Indexes of output per hour and related measures, 1970-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	108.7	105.4	62.8	57.8	50.8	50.8	50.5
1971 .....	109.4	108.7	68.8	62.9	64.5	65.3	60.1
1972 .....	108.8	105.4	75.5	69.4	71.8	73.4	69.4
1973 .....	104.2	100.5	78.8	73.5	76.2	77.5	70.2
1974 .....	92.2	98.2	70.5	65.8	68.8	68.8	68.0
1975 .....	98.8	96.1	69.8	60.3	62.0	61.5	63.4
1976 .....	98.8	96.5	68.2	67.0	68.3	70.1	94.8
1977 .....	104.8	101.7	75.2	71.8	74.0	75.2	68.0
1978 .....	94.5	91.3	71.2	75.4	78.0	79.5	71.2
1979 .....	95.4	91.4	70.3	73.7	78.9	77.4	74.4
1980 .....	97.8	93.3	84.4	88.0	88.1	88.0	73.3
1981 .....	99.7	95.0	84.2	84.4	87.8	88.8	70.7
1982 .....	95.5	91.7	84.0	88.8	88.8	87.2	85.7
1983 .....	98.1	98.2	88.8	87.4	88.0	88.0	88.1
1984 .....	100.4	98.8	78.0	74.7	76.1	78.9	72.8
1985 .....	97.4	98.8	77.3	79.4	80.0	80.8	77.5
1986 .....	102.2	101.8	88.7	84.8	85.1	85.7	88.6
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	98.2	95.5	97.8	99.8	102.5	101.8	100.1
1989 .....	97.8	94.7	96.2	97.4	100.8	98.3	105.8
1990 .....	97.8	94.7	92.7	94.7	97.8	95.1	108.9
1991 .....	95.7	93.1	93.7	87.4	89.8	88.1	105.2
1992 .....	93.4	91.8	94.5	89.4	89.0	88.2	103.8
1993 .....	92.6	91.0	90.2	93.1	94.8	92.0	106.1
1994 .....	90.7	88.8	89.7	100.0	101.0	98.5	111.3
<b>Average annual percent change:</b>							
1950-94 .....	.1	.1	1.8	1.8	1.7	1.8	2.0
1980-94 .....	-2.1	-1.8	-3	1.4	.8	.9	.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 43. Wood kitchen cabinets (SIC 2434): Indexes of output per hour and related measures, 1972-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972 .....	79.2	76.8	41.3	52.2	53.8	63.5	22.4
1973 .....	80.5	78.8	45.5	58.5	59.2	69.3	28.7
1974 .....	75.0	70.9	38.8	51.4	54.4	62.4	27.1
1975 .....	82.3	78.4	34.1	41.4	44.8	50.8	23.0
1976 .....	77.5	72.7	38.0	40.0	52.2	61.5	22.7
1977 .....	97.1	91.2	57.0	58.7	62.5	74.1	38.3
1978 .....	95.1	91.4	64.7	68.1	70.8	83.7	30.1
1979 .....	89.0	84.0	64.3	72.2	76.5	91.3	31.2
1980 .....	94.1	87.8	59.9	63.7	68.4	79.8	31.9
1981 .....	90.8	85.0	58.8	62.2	69.4	75.4	34.8
1982 .....	92.5	88.4	51.2	58.4	59.3	68.4	34.8
1983 .....	91.7	80.4	62.2	67.8	68.8	68.2	71.2
1984 .....	91.6	91.9	73.9	80.7	80.5	91.9	74.8
1985 .....	87.1	85.7	73.1	83.9	95.3	88.8	78.1
1986 .....	85.2	84.2	77.8	91.3	82.4	93.0	88.9
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	97.7	95.3	97.8	100.2	102.7	102.1	105.0
1989 .....	91.1	88.1	82.6	101.7	104.0	103.2	107.2
1990 .....	93.8	91.5	93.5	89.9	102.1	101.1	108.5
1991 .....	92.3	89.0	82.1	88.9	91.2	88.5	88.6
1992 .....	102.0	102.0	94.7	92.8	92.8	90.9	100.7
1993 .....	101.9	102.3	98.4	97.6	97.2	96.1	101.4
1994 .....	95.9	87.3	102.6	107.0	105.5	105.3	108.5
<b>Average annual percent change:</b>							
1972-94 .....	.9	1.1	4.2	3.3	3.1	2.3	7.1
1980-94 .....	.6	1.5	2.3	1.7	.8	1.0	.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 44. Veneer and plywood (SIC 2435, 2436): Indexes of output per hour and related measures, 1970-84  
(1977=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<i>Index:</i>							
1970	94.4	63.2	72.2	112.2	114.2	113.3	122.8
1971	99.2	69.3	82.9	119.8	119.7	118.8	127.3
1972	72.4	74.8	91.8	126.7	123.0	122.8	127.3
1973	99.9	69.0	98.1	127.9	127.7	125.9	143.8
1974	99.1	68.2	77.2	113.4	116.7	114.4	138.9
1975	76.7	72.8	74.1	97.8	101.8	98.1	127.3
1976	75.7	74.9	85.0	112.3	113.5	112.1	125.7
1977	74.8	74.3	98.8	118.7	118.5	118.4	120.8
1978	78.8	75.0	93.9	123.8	125.1	123.3	141.9
1979	99.3	67.3	84.2	121.8	125.1	121.9	154.9
1980	74.2	70.4	75.4	101.7	107.1	103.8	128.7
1981	77.1	72.9	78.0	98.8	104.2	102.8	118.4
1982	93.3	77.4	71.0	95.2	91.7	90.3	112.9
1983	97.8	88.1	94.0	95.7	97.8	98.5	108.0
1984	95.9	84.1	85.0	98.9	101.1	100.9	105.2
1985	97.7	88.4	93.1	94.8	98.2	98.8	91.9
1986	99.2	88.9	87.3	97.8	98.1	98.8	90.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.7	98.5	98.2	98.5	98.7	98.7	108.1
1989	100.0	100.8	95.7	95.7	95.3	93.8	108.1
1990	101.4	101.2	92.3	91.0	91.2	90.5	108.8
1991	104.2	103.5	94.1	90.8	91.7	79.5	98.8
1992	103.3	104.7	95.5	92.8	81.7	79.8	98.4
1993	99.2	98.4	94.4	95.1	95.0	93.3	100.0
1994	98.1	97.5	85.4	90.7	87.6	85.8	104.8
Average annual percent change:							
1972-84	3.2	3.3	2.9	-2	-3	-5	-8
1980-84	-1.8	-0	-1.9	-4	-1.0	-1.1	-4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 45. Hardwood veneer and plywood (SIC 2435): Indexes of output per hour and related measures, 1972-84  
(1977=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<i>Index:</i>							
1972	93.8	85.8	124.3	132.8	129.8	132.8	110.3
1973	90.2	80.7	108.8	133.2	132.3	138.0	108.8
1974	79.5	78.1	92.4	118.3	118.4	122.0	93.1
1975	93.5	80.0	76.3	91.4	98.3	98.7	98.1
1976	77.8	77.0	79.9	102.8	103.7	105.3	93.1
1977	82.0	81.2	89.7	109.3	110.4	111.5	103.4
1978	92.3	88.8	93.1	113.1	115.5	117.8	100.0
1979	79.8	77.8	90.9	114.3	117.2	118.7	108.8
1980	93.7	80.0	83.3	98.5	104.1	104.8	100.0
1981	81.5	80.0	83.8	102.5	104.8	104.5	108.8
1982	88.1	79.9	73.5	85.4	82.0	80.9	100.0
1983	92.4	80.2	85.7	93.9	98.2	98.7	100.0
1984	83.9	82.0	83.7	99.7	102.1	102.5	100.0
1985	84.5	82.6	77.7	91.9	94.1	94.3	93.1
1986	83.2	82.2	79.4	95.4	98.8	97.1	93.1
1987	100.0	100.0	100.0	120.0	100.0	100.0	115.0
1988	98.0	98.3	100.0	101.0	101.7	101.0	108.9
1989	98.0	98.0	100.1	101.2	102.1	100.5	113.8
1990	92.2	91.2	91.2	98.9	100.0	98.1	113.8
1991	93.3	92.2	85.3	91.4	92.4	90.4	108.9
1992	104.1	104.4	98.3	94.4	94.1	91.4	113.8
1993	108.8	108.0	105.1	98.3	99.2	98.7	117.2
1994	94.4	93.8	98.8	104.4	102.9	101.4	113.8
Average annual percent change:							
1972-84	.0	.0	-1.0	-1.1	-1.1	-1.2	.1
1980-84	.8	1.2	2.0	1.4	.7	.8	.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 46. Softwood veneer and plywood (SIC 2436): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	69.0	71.4	84.7	122.8	118.7	118.3	142.5
1973	67.7	67.5	84.1	124.3	124.7	118.7	175.8
1974	68.1	63.9	73.7	111.5	118.4	109.8	175.8
1975	72.5	68.7	73.8	101.9	108.0	100.5	160.8
1976	73.0	72.3	86.4	118.3	118.5	116.1	154.5
1977	71.0	70.8	88.5	124.7	125.4	122.5	154.5
1978	72.1	71.5	94.0	130.4	131.4	128.7	178.9
1979	65.8	63.4	82.8	125.9	130.3	123.7	167.0
1980	71.3	67.5	73.5	103.1	108.9	102.8	172.8
1981	77.0	71.3	74.1	96.3	103.9	101.4	130.3
1982	82.9	77.1	70.5	85.0	91.4	88.3	134.2
1983	88.3	84.8	83.6	98.8	98.8	97.1	115.3
1984	87.1	85.2	85.8	98.3	100.5	100.0	105.1
1985	88.3	87.2	85.0	98.3	97.5	98.1	99.9
1986	80.4	89.9	88.9	98.4	98.8	98.4	95.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.8	100.8	98.2	98.8	98.4	97.4	105.1
1989	102.6	104.1	94.7	92.2	90.8	89.7	103.0
1990	108.3	108.9	93.2	88.1	85.8	84.2	100.0
1991	114.3	113.9	84.4	73.9	74.1	72.7	87.9
1992	109.2	111.7	82.5	75.5	73.8	72.7	94.8
1993	103.4	103.8	78.8	78.2	78.9	78.1	94.8
1994	101.9	105.5	82.1	80.8	77.8	76.0	97.0
<b>Average annual percent change:</b>							
1972-84	1.8	1.8	.1	-1.9	-1.9	-1.9	-1.7
1980-84	-1.5	-1.0	-3.1	-1.6	-2.4	-2.5	-1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 47. Wood containers (SIC 244): Indexes of output per hour and related measures, 1977-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1977	81.3	80.7	80.9	98.5	100.2	104.4	76.8
1978	81.7	80.7	85.6	104.7	108.0	110.1	82.8
1979	72.9	72.2	80.7	110.8	111.8	118.3	87.5
1980	88.2	83.9	85.0	98.8	101.3	103.8	88.1
1981	84.4	84.1	82.8	97.9	98.3	98.2	88.8
1982	100.5	88.6	88.5	98.0	98.7	98.0	88.8
1983	100.0	100.2	80.4	98.4	98.2	98.8	88.8
1984	103.4	103.1	100.9	97.8	97.9	98.0	98.9
1985	99.8	98.9	98.8	97.0	97.8	97.7	98.9
1986	98.7	98.2	98.6	98.9	97.4	97.5	98.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.2	103.7	108.4	105.0	104.5	104.8	103.1
1989	108.8	109.2	116.5	107.2	108.7	108.5	107.8
1990	111.8	113.8	122.5	109.8	107.8	107.0	110.9
1991	113.5	115.2	121.0	108.8	106.0	103.9	110.9
1992	108.8	111.2	115.5	105.2	103.8	102.8	108.4
1993	100.5	102.0	111.8	111.2	108.5	108.8	108.4
1994	101.8	104.2	122.8	120.5	117.7	118.0	115.8
<b>Average annual percent change:</b>							
1977-84	1.3	1.5	2.5	1.1	1.0	.7	2.5
1980-84	-2.3	-2.2	.0	2.4	2.3	2.5	1.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 48. Household furniture (SIC 251): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	72.2	71.1	88.2	96.8	97.3	97.3	94.2
1971	74.8	74.5	74.4	99.8	99.9	100.8	98.5
1972	78.9	79.5	87.8	111.3	110.4	111.4	105.1
1973	80.6	80.8	93.0	115.4	115.3	118.4	109.5
1974	79.9	77.8	88.2	108.7	108.4	108.5	108.1
1975	82.1	76.2	72.7	98.8	95.0	92.3	97.0
1976	84.3	82.0	82.2	97.5	100.2	100.7	97.2
1977	88.8	88.7	88.5	100.9	103.3	104.1	88.9
1978	90.0	88.8	98.4	107.2	108.8	108.5	104.7
1979	88.1	88.9	93.8	105.2	107.9	107.9	108.1
1980	93.2	90.1	98.0	94.4	98.8	98.0	100.4
1981	94.1	90.5	98.3	93.9	97.6	98.5	100.4
1982	94.8	92.2	77.8	92.1	98.2	98.0	100.2
1983	94.5	93.1	98.3	90.2	91.8	98.8	101.1
1984	94.5	93.3	98.4	95.7	97.0	98.0	101.9
1985	93.5	91.7	98.5	94.7	98.5	98.8	101.7
1986	98.2	97.1	93.7	98.4	98.5	98.9	98.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.3	98.1	98.8	98.8	100.9	100.9	100.8
1989	101.9	100.3	98.8	97.8	98.2	98.1	100.0
1990	104.3	101.8	98.4	92.4	94.8	93.8	101.3
1991	108.8	103.5	91.9	81.0	88.8	87.2	97.9
1992	110.2	108.4	98.5	87.5	88.0	87.7	98.6
1993	110.3	108.8	98.9	90.8	91.2	90.1	97.0
1994	112.7	112.2	104.5	92.7	93.1	92.1	98.3
Average annual percent change:							
1988-94	1.8	1.8	2.3	.5	.5	.4	.5
1980-94	2.0	2.5	2.0	.1	-.5	-.4	-.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 49. Wood household furniture (SIC 2511, 2517): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	74.0	73.7	70.5	85.3	85.8	87.5	81.8
1971	78.8	79.0	78.2	89.2	87.8	89.5	88.5
1972	86.5	86.7	94.8	108.8	108.8	108.8	94.3
1973	88.5	88.5	98.8	112.8	111.3	113.1	98.8
1974	88.2	88.6	93.8	108.5	109.3	110.8	103.3
1975	87.3	82.8	76.4	87.5	82.3	83.3	85.8
1976	82.8	91.7	91.0	98.0	98.2	100.9	87.5
1977	93.3	91.8	94.3	101.1	102.8	104.1	94.1
1978	96.7	95.4	103.8	107.2	108.8	110.2	97.5
1979	89.8	87.8	94.0	104.9	107.3	107.8	104.5
1980	91.8	87.5	85.6	93.2	97.8	97.2	102.0
1981	91.5	87.9	84.9	92.8	98.5	98.8	101.2
1982	94.2	88.1	75.9	88.8	88.2	88.8	98.8
1983	93.7	91.4	92.9	88.5	90.7	90.8	98.2
1984	98.9	95.5	92.2	95.2	98.8	98.1	100.1
1985	95.0	92.5	89.2	93.9	98.5	98.1	98.3
1986	98.6	98.2	94.2	94.5	98.8	98.5	98.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.8	99.5	99.2	98.4	98.7	98.8	100.0
1989	101.2	99.8	98.5	98.4	98.7	98.8	97.8
1990	102.5	99.8	91.4	98.2	91.8	90.0	102.9
1991	101.3	97.7	84.5	83.5	98.5	94.7	99.2
1992	108.5	104.0	91.7	98.1	98.2	98.4	100.8
1993	108.2	104.9	93.9	98.4	98.5	98.1	98.8
1994	108.4	105.8	98.7	98.9	91.8	98.8	104.9
Average annual percent change:							
1988-94	1.8	1.8	2.1	.5	.5	.3	1.4
1980-94	.8	1.4	1.4	.5	.0	-.1	-.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 50. Upholstered household furniture (SIC 2512): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	77.2	75.1	94.2	93.1	95.5	94.9	95.9
1971	78.5	74.3	95.1	97.5	95.9	95.9	95.4
1972	77.3	76.8	78.7	100.1	100.7	104.1	101.2
1973	75.1	75.4	92.2	100.5	99.1	100.5	100.6
1974	78.1	76.2	75.7	95.8	99.4	98.4	104.3
1975	79.8	76.7	68.7	93.8	97.0	94.9	97.5
1976	77.8	74.7	72.0	92.5	95.3	95.9	95.6
1977	90.8	93.8	92.1	94.8	95.0	95.3	95.3
1978	90.3	90.2	91.5	102.4	103.8	103.0	107.5
1979	92.3	90.2	93.3	101.0	103.5	102.4	108.7
1980	90.8	92.5	98.9	99.7	93.9	92.7	100.0
1981	97.3	93.4	95.0	97.3	95.9	95.9	101.2
1982	94.7	92.2	73.9	77.9	92.6	90.4	100.0
1983	94.8	93.8	92.3	98.8	97.7	94.9	101.9
1984	95.2	95.2	98.7	92.2	93.2	91.4	102.5
1985	95.3	95.1	95.8	92.0	93.2	91.4	102.5
1986	101.7	100.7	95.5	93.9	94.9	94.0	98.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.8	98.8	98.0	98.2	101.4	101.7	100.0
1989	101.2	99.0	98.7	98.5	100.7	100.7	100.0
1990	107.7	103.8	100.7	93.5	97.3	97.0	91.8
1991	116.1	110.0	98.7	95.7	98.7	98.7	95.0
1992	120.0	117.2	104.3	95.9	96.0	95.3	92.5
1993	120.0	119.2	110.4	92.9	92.8	92.5	92.2
1994	130.2	129.1	120.4	92.5	93.3	93.0	92.1
<b>Average annual percent change:</b>							
1980-94	1.8	1.9	3.1	1.2	1.1	1.1	1.3
1980-94	4.9	5.7	4.8	-3	-1.0	-1.0	-0.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 51. Metal household furniture (SIC 2514): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	58.9	54.8	72.1	122.4	132.2	131.8	135.0
1971	57.2	53.9	72.5	126.6	134.4	134.9	132.8
1972	64.7	62.0	83.2	126.8	134.3	133.8	136.7
1973	68.7	65.2	91.1	132.8	138.8	140.3	138.7
1974	65.6	61.8	80.7	121.2	130.6	129.2	138.7
1975	73.2	67.8	67.3	91.9	90.2	95.4	116.3
1976	74.8	70.2	78.8	101.3	107.9	108.9	112.2
1977	78.4	73.9	95.8	108.5	116.2	114.8	122.4
1978	74.9	70.5	98.4	115.3	122.8	121.3	128.0
1979	71.7	67.3	81.8	114.0	121.5	119.9	128.8
1980	72.5	67.6	75.8	104.5	112.1	110.8	118.4
1981	71.8	68.1	78.3	108.1	115.1	114.8	118.3
1982	63.9	70.7	77.0	91.8	98.6	94.0	105.2
1983	64.1	62.7	82.7	98.4	100.0	98.8	108.1
1984	64.9	62.5	87.5	103.1	108.0	105.1	110.2
1985	68.4	66.3	87.3	97.7	101.1	100.0	108.1
1986	65.3	62.8	91.4	96.9	98.5	98.1	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.2	98.6	101.2	101.0	102.6	102.3	104.1
1989	100.7	97.9	98.0	98.4	98.1	98.8	104.1
1990	101.4	99.7	91.1	99.8	91.3	98.4	100.0
1991	107.2	105.0	98.4	93.8	92.3	90.1	91.8
1992	108.5	108.2	98.1	78.8	79.8	78.2	95.7
1993	108.8	108.5	98.4	90.9	91.1	90.8	93.7
1994	99.5	99.5	95.8	98.1	98.0	98.8	93.7
<b>Average annual percent change:</b>							
1980-94	2.1	2.2	1.3	-8	-8	-8	-1.2
1980-94	-8	-1	-1.5	-1.0	-1.5	-8	-4.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 52. Mattresses and bedsprings (SIC 2515): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	55.5	58.1	73.0	131.7	130.3	133.5	120.3
1971 .....	60.8	61.4	82.8	136.7	134.9	157.7	128.1
1972 .....	62.4	62.7	87.7	140.4	139.8	144.2	126.1
1973 .....	68.0	67.0	97.0	143.8	144.4	148.5	120.4
1974 .....	67.7	64.8	95.8	128.4	122.4	122.8	131.9
1975 .....	70.0	67.7	77.0	111.3	115.1	114.9	115.9
1976 .....	73.7	71.1	93.0	113.4	117.6	119.5	111.8
1977 .....	80.8	79.0	90.5	112.0	113.4	118.3	104.3
1978 .....	79.3	79.3	90.5	114.1	114.1	118.1	101.4
1979 .....	91.5	88.7	101.0	111.1	113.4	115.3	107.2
1980 .....	99.2	98.6	103.8	104.8	107.4	108.4	104.3
1981 .....	105.5	101.5	108.7	103.0	107.0	108.4	102.9
1982 .....	95.2	91.2	98.6	94.1	98.2	97.2	101.4
1983 .....	93.3	93.5	95.1	102.0	101.8	101.4	102.9
1984 .....	84.1	83.3	87.1	103.5	104.8	108.0	100.0
1985 .....	79.5	79.2	82.8	103.8	104.2	104.7	102.8
1986 .....	85.5	85.7	87.2	102.0	101.8	102.3	100.0
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	92.5	93.8	97.5	105.5	104.2	108.0	98.8
1989 .....	108.5	107.7	110.8	104.0	102.8	104.2	98.6
1990 .....	108.2	107.1	107.8	101.5	100.7	101.4	98.8
1991 .....	108.9	110.2	107.5	98.7	97.5	98.6	94.2
1992 .....	103.4	108.5	104.8	101.1	98.2	98.6	97.1
1993 .....	104.4	108.1	108.3	103.7	102.1	102.8	100.0
1994 .....	105.9	107.4	114.6	109.2	108.7	107.9	102.9
<b>Average annual percent change:</b>							
1955-94 .....	2.8	2.5	2.1	-5	-5	-5	-2
1990-94 .....	-1	.1	1.5	1.6	1.5	1.6	1.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 53. Office furniture (SIC 252): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	65.2	68.4	31.5	48.4	46.1	47.5	41.9
1971 .....	69.8	72.1	30.1	43.3	41.8	42.2	40.5
1972 .....	76.2	78.8	38.4	50.4	46.7	50.5	43.4
1973 .....	78.4	78.8	41.3	54.1	52.6	55.0	45.9
1974 .....	89.2	70.0	38.7	55.9	55.2	58.9	43.9
1975 .....	71.3	69.9	31.9	44.7	45.8	46.7	42.4
1976 .....	74.7	74.1	35.3	47.3	47.7	49.2	43.4
1977 .....	82.5	82.8	46.2	58.0	55.8	58.3	48.3
1978 .....	82.5	83.1	46.9	60.5	60.1	63.2	51.2
1979 .....	87.3	89.1	55.2	63.2	61.9	64.8	53.2
1980 .....	92.3	90.6	59.8	64.8	66.0	66.3	65.4
1981 .....	89.5	90.8	60.8	67.7	68.9	67.8	64.8
1982 .....	89.1	88.5	64.5	72.4	72.9	72.9	72.7
1983 .....	94.1	82.6	68.8	73.1	74.3	74.8	72.7
1984 .....	98.4	100.3	81.1	82.4	80.8	81.4	79.0
1985 .....	99.3	100.3	84.9	85.5	84.7	83.8	87.8
1986 .....	101.0	100.8	85.8	84.7	84.9	84.1	87.3
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	98.4	98.4	95.9	99.5	99.5	100.8	95.8
1989 .....	97.7	99.5	98.6	100.9	99.0	99.0	99.0
1990 .....	98.8	99.5	91.4	94.4	91.8	91.0	94.1
1991 .....	97.2	99.6	80.5	82.8	80.8	78.1	98.8
1992 .....	99.4	105.7	89.8	90.3	84.1	83.7	95.4
1993 .....	99.5	108.1	91.4	91.9	86.1	86.7	94.4
1994 .....	98.7	105.9	92.1	93.4	87.0	88.5	92.4
<b>Average annual percent change:</b>							
1955-94 .....	1.7	1.9	5.0	3.3	3.1	2.9	3.8
1990-94 .....	.5	1.8	.2	-3	-1.3	-7	-3.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 54. Wood office furniture (SIC 2521): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	98.3	90.0	27.9	31.8	31.0	33.8	21.3
1971	95.3	84.7	23.7	27.8	26.0	29.8	21.3
1972	98.8	90.5	33.6	37.8	37.1	39.3	39.8
1973	92.5	83.0	33.2	40.2	40.0	42.8	30.3
1974	97.6	85.8	37.1	42.3	43.2	46.7	30.3
1975	95.5	78.5	29.3	34.3	37.4	39.7	29.8
1976	97.1	83.3	34.4	39.5	41.3	43.9	31.8
1977	106.7	107.1	65.3	51.8	51.8	52.4	46.5
1978	106.7	105.0	59.2	55.5	56.4	56.1	57.5
1979	117.0	118.0	78.5	65.4	64.8	63.9	68.2
1980	114.7	108.1	60.4	60.5	66.4	63.5	72.7
1981	103.9	104.2	64.9	62.5	62.3	61.0	68.7
1982	93.8	91.8	62.1	66.3	67.8	66.0	66.7
1983	97.3	95.5	64.8	66.6	67.1	66.0	63.7
1984	99.3	98.8	79.8	80.4	80.0	80.3	78.8
1985	98.4	100.0	76.5	76.9	76.5	75.8	78.8
1986	98.2	93.6	74.9	77.8	80.0	81.2	75.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.4	93.0	82.1	86.5	86.0	100.4	88.8
1989	95.4	98.2	88.5	101.2	100.3	100.0	101.8
1990	97.4	98.0	88.2	80.8	80.0	88.3	82.4
1991	101.3	102.2	73.2	72.3	71.8	98.4	83.3
1992	107.1	111.2	83.9	78.4	75.5	75.8	74.2
1993	104.4	108.3	81.1	77.7	74.2	75.4	88.7
1994	104.0	108.5	88.1	82.8	79.4	80.7	74.2
<b>Average annual percent change:</b>							
1988-94	1.1	1.2	5.3	4.2	4.1	3.9	5.2
1980-94	1.7	2.8	-8	-2.2	-3.1	-2.5	-6.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 55. Office furniture, except wood (SIC 2522): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	55.7	59.2	32.9	59.1	55.6	57.1	51.8
1971	61.3	64.8	32.5	53.0	50.3	50.6	49.8
1972	68.7	71.8	40.2	58.5	58.0	58.0	50.4
1973	70.8	73.1	44.3	62.8	60.6	63.5	53.2
1974	60.8	62.7	39.3	64.8	62.8	67.4	50.4
1975	63.9	64.7	32.8	51.3	50.7	51.4	48.9
1976	66.3	68.0	35.7	52.2	51.7	52.9	48.9
1977	73.1	73.7	42.9	58.7	58.3	62.3	48.2
1978	73.2	74.8	46.8	63.6	62.4	68.0	48.2
1979	76.7	79.1	47.5	61.9	60.0	65.4	48.0
1980	83.5	84.9	58.4	67.5	68.4	68.2	61.9
1981	83.4	84.8	58.1	70.9	69.9	72.1	64.0
1982	85.9	86.1	65.4	78.2	78.0	78.3	75.5
1983	91.2	89.4	70.3	77.1	78.6	79.3	77.0
1984	97.5	100.3	81.8	83.6	81.3	82.2	79.2
1985	98.9	98.2	88.1	89.9	89.7	88.9	82.1
1986	100.8	101.9	89.5	89.0	87.9	88.0	82.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.0	97.6	97.4	101.4	99.8	101.1	98.4
1989	98.7	101.2	99.4	100.7	98.2	98.3	97.8
1990	95.6	99.6	92.8	98.8	93.0	92.2	95.0
1991	92.9	95.1	83.1	89.5	88.5	94.6	91.4
1992	93.9	102.7	91.9	98.0	98.5	99.1	90.8
1993	94.3	101.7	95.1	100.9	93.8	94.4	91.4
1994	94.3	102.8	94.3	100.0	91.8	93.9	88.3
<b>Average annual percent change:</b>							
1988-94	1.9	2.2	4.9	2.9	2.7	2.5	3.4
1980-94	-3	.8	.5	.8	-3	.5	-2.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 56. Pulp, paper, and paperboard mills (SIC 261, 262, 263): Indexes of output per hour and related measures, 1970-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	56.7	57.4	67.9	119.7	118.3	123.0	100.0
1971	59.4	60.3	68.6	115.0	113.7	117.5	103.5
1972	64.5	65.1	74.1	114.0	112.1	116.5	97.5
1973	67.1	68.6	77.5	115.5	113.0	116.5	98.6
1974	67.1	67.6	77.2	115.0	114.3	116.5	98.4
1975	63.5	62.0	65.5	103.1	105.8	103.2	95.3
1976	68.7	69.2	76.3	108.5	110.3	113.5	99.8
1977	73.3	72.3	79.9	108.9	110.5	113.5	100.0
1978	76.8	74.7	81.7	108.0	108.4	111.4	102.2
1979	77.3	76.3	84.6	109.5	110.9	113.0	104.4
1980	77.1	78.2	84.0	109.0	110.2	111.5	105.0
1981	76.3	75.1	81.7	107.0	108.8	110.7	102.5
1982	81.8	79.0	82.3	100.8	104.1	104.8	101.1
1983	67.2	65.6	68.1	101.0	102.9	104.0	99.8
1984	69.7	68.8	62.8	103.5	104.5	105.1	102.2
1985	67.8	65.7	69.5	102.2	104.4	104.3	104.0
1986	63.3	63.0	63.1	69.8	100.2	100.8	99.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.1	103.3	104.8	101.8	101.5	102.1	99.3
1989	103.2	103.4	105.0	101.8	101.8	102.0	100.2
1990	102.8	103.4	105.5	102.9	102.1	100.9	108.2
1991	102.1	102.7	104.1	101.9	101.4	100.5	104.4
1992	104.7	105.7	107.0	102.2	101.2	101.1	101.8
1993	104.5	105.2	105.1	100.8	99.0	98.8	99.5
1994	111.4	114.7	111.4	100.0	97.1	98.9	97.8
<b>Average annual percent change:</b>							
1947-94	3.3	3.2	3.2	-1	.0	-3	1.4
1980-94	2.1	2.8	1.4	-7	-1.2	-1.0	-2.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor

Statistics, and the American Forest and Paper Association. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 57. Corrugated and solid fiber boxes (SIC 2653): Indexes of output per hour and related measures, 1970-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	59.7	58.0	57.8	98.5	99.2	101.7	92.9
1971	63.3	62.0	60.2	95.0	97.1	99.0	92.9
1972	65.0	65.1	68.4	102.2	102.1	104.7	95.4
1973	70.3	70.1	72.8	103.5	103.8	107.4	94.8
1974	75.1	70.8	69.1	92.0	97.8	99.1	93.7
1975	78.8	74.8	63.3	90.5	94.8	93.3	95.4
1976	82.8	79.8	71.8	98.5	99.8	90.0	98.4
1977	81.8	78.9	75.8	93.0	98.1	98.8	97.8
1978	84.2	81.2	81.4	98.8	100.2	100.3	100.3
1979	87.2	84.3	82.8	95.0	98.2	98.3	98.5
1980	90.5	88.7	79.9	98.2	92.1	90.2	97.2
1981	88.5	87.0	80.1	89.5	92.1	90.5	97.2
1982	91.3	87.3	78.0	85.4	90.3	87.2	94.7
1983	93.0	91.1	83.5	88.5	91.5	89.5	98.2
1984	98.7	95.1	89.0	92.0	93.8	92.8	98.1
1985	98.8	98.9	98.7	90.1	92.8	92.1	94.0
1986	102.8	101.3	95.0	92.4	93.8	93.3	98.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.8	98.8	103.8	103.8	103.8	102.9	108.9
1989	98.1	98.5	108.0	108.1	107.5	108.4	111.5
1990	100.9	100.4	108.4	107.4	107.9	106.5	112.2
1991	100.8	100.9	108.2	108.3	108.2	107.0	112.2
1992	101.9	102.5	114.3	112.1	111.4	110.1	118.8
1993	105.5	107.2	120.5	114.2	112.5	111.8	114.5
1994	110.8	113.3	130.0	117.8	114.7	114.0	117.2
<b>Average annual percent change:</b>							
1958-94	2.8	2.9	4.4	1.8	1.5	1.4	1.9
1980-94	2.3	3.1	4.8	2.3	1.5	1.7	1.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Fiber Box Association, and the Bureau of the

Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 58. Folding paperboard boxes (SIC 2657): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	78.0	73.8	81.8	107.7	111.1	113.9	101.7
1971	79.4	77.0	78.0	99.2	102.4	104.5	95.4
1972	82.7	80.3	83.7	101.2	104.2	107.2	92.4
1973	88.4	84.0	88.9	100.8	103.4	106.8	92.2
1974	87.8	86.0	83.7	95.4	98.5	100.4	92.2
1975	88.4	84.1	73.8	95.2	97.5	97.7	92.3
1976	90.8	88.3	92.7	91.3	92.8	93.7	92.0
1977	90.2	87.0	98.8	98.4	102.0	104.2	94.2
1978	94.5	91.4	98.2	100.8	104.2	108.0	97.5
1979	90.7	88.9	91.3	100.7	102.7	105.0	94.2
1980	90.4	87.7	91.2	100.9	104.0	105.7	97.5
1981	90.1	88.3	90.2	99.0	101.1	103.4	92.4
1982	95.0	91.7	90.8	95.4	98.8	99.5	92.3
1983	98.0	95.7	92.3	94.2	98.4	98.7	92.5
1984	93.4	92.4	94.4	101.1	102.2	102.3	101.9
1985	90.0	88.4	87.0	98.7	98.4	99.5	94.5
1986	98.5	98.5	98.5	100.0	100.0	101.3	92.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.8	101.5	104.1	102.4	102.8	102.9	101.0
1989	105.4	104.8	105.0	99.8	100.4	98.8	103.1
1990	105.3	103.8	102.6	97.4	98.8	98.0	102.1
1991	110.9	108.9	108.8	98.1	97.0	97.3	95.9
1992	116.4	116.2	113.7	97.7	97.8	98.3	95.9
1993	117.9	118.5	114.3	97.0	98.4	98.3	95.9
1994	122.2	124.0	118.5	98.9	94.9	95.4	92.8
<b>Average annual percent change:</b>							
1984-94	1.9	2.0	1.3	-8	-7	-8	-4
1990-94	3.8	4.7	3.7	-1	-1.0	-7	-2.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Paperboard Packaging Council, the Bureau of the

Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 59. Paper and plastic bags (SIC 2673, 2674): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	72.8	71.8	71.0	97.8	99.0	99.5	97.1
1971	83.3	82.1	78.8	92.2	93.8	94.0	92.3
1972	86.1	85.8	77.8	90.1	90.5	90.0	90.3
1973	90.7	89.8	82.7	91.2	92.1	91.2	90.1
1974	95.2	94.0	90.3	94.8	96.0	97.7	90.5
1975	97.2	90.1	81.8	94.1	90.7	91.0	90.4
1976	97.5	93.5	98.2	90.5	94.4	94.5	94.4
1977	97.1	94.8	98.0	98.6	90.7	90.7	95.2
1978	98.8	98.0	98.4	91.3	92.1	91.2	90.1
1979	94.1	91.8	88.6	95.3	97.9	97.1	102.0
1980	91.4	89.3	91.2	99.8	102.1	100.8	107.8
1981	90.0	88.0	88.8	100.7	101.8	100.1	108.7
1982	92.0	88.9	93.1	90.4	93.5	92.2	90.0
1983	90.4	97.7	91.4	92.0	93.6	92.2	100.0
1984	98.9	98.0	88.6	98.7	91.4	90.9	98.0
1985	99.7	98.7	98.9	99.2	90.1	90.0	94.3
1986	101.8	102.8	95.5	93.8	92.9	90.8	101.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	97.7	98.7	98.5	100.9	99.8	101.4	93.3
1989	93.7	94.1	98.8	105.2	104.8	108.2	98.0
1990	92.2	93.9	98.0	104.1	102.2	103.0	98.0
1991	88.5	91.1	91.8	102.4	100.8	101.2	98.1
1992	93.9	95.9	102.3	108.9	106.7	108.2	108.7
1993	92.0	95.3	103.1	112.1	108.2	107.4	111.5
1994	98.0	99.3	103.8	107.9	104.3	103.9	105.8
<b>Average annual percent change:</b>							
1984-94	1.5	1.8	2.9	1.4	1.3	1.2	1.7
1990-94	1.0	1.4	1.9	.9	.5	.2	1.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 60. Industrial inorganic chemicals (SIC 281): Indexes of output per hour and related measures, 1972-94  
(1967=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972 .....	75.5	74.1	93.6	124.1	126.3	142.1	102.5
1973 .....	79.5	79.2	100.1	125.9	126.3	145.3	98.0
1974 .....	80.9	80.8	108.9	134.6	135.1	152.8	108.4
1975 .....	88.8	85.7	98.6	134.1	136.5	146.9	121.1
1976 .....	73.3	72.4	98.3	134.1	136.7	144.5	122.3
1977 .....	77.7	76.9	103.5	133.3	134.8	146.1	117.3
1978 .....	80.8	80.0	110.5	137.2	138.1	149.3	121.6
1979 .....	82.2	82.2	108.0	128.9	128.9	139.4	113.1
1980 .....	75.7	74.1	102.6	125.6	126.5	146.4	127.9
1981 .....	70.1	69.2	95.9	126.7	126.5	142.8	122.0
1982 .....	65.7	65.1	95.2	127.7	130.9	134.0	128.1
1983 .....	74.8	72.6	90.8	121.8	125.1	128.3	120.7
1984 .....	85.0	84.3	101.1	119.0	120.0	123.8	114.8
1985 .....	84.0	84.2	100.8	119.8	119.8	121.8	116.4
1986 .....	89.0	88.6	98.8	111.0	110.3	110.2	110.6
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	100.1	104.0	107.1	107.0	103.0	105.0	100.0
1989 .....	103.2	102.7	107.7	104.4	104.9	107.8	100.4
1990 .....	104.9	105.7	113.1	107.8	107.0	109.5	103.4
1991 .....	99.2	101.2	111.0	112.0	108.7	112.0	106.3
1992 .....	103.5	108.3	114.5	110.8	107.7	109.5	105.0
1993 .....	108.1	110.3	109.8	101.4	99.3	100.3	97.9
1994 .....	107.7	108.6	101.9	94.8	93.0	94.4	90.8
<b>Average annual percent change:</b>							
1972-94 .....	1.8	1.8	.4	-1.2	-1.4	-1.2	-1.6
1980-94 .....	.7	.9	-2.6	-3.2	-3.4	-3.6	-3.2

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 61. Alkalies and chlorine (SIC 2812): Indexes of output per hour and related measures, 1972-94  
(1967=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972 .....	38.1	38.7	97.8	255.9	286.0	274.3	248.8
1973 .....	38.4	37.8	100.1	261.0	286.0	278.0	240.0
1974 .....	43.6	43.0	117.7	270.0	274.0	282.4	253.4
1975 .....	34.1	33.6	94.8	278.1	282.1	279.9	255.3
1976 .....	37.4	36.8	97.9	261.9	286.0	281.3	300.0
1977 .....	40.3	39.1	92.3	229.0	238.0	228.6	233.4
1978 .....	43.8	43.1	93.2	212.9	216.0	208.3	230.3
1979 .....	50.8	49.0	73.6	144.9	150.2	142.9	166.7
1980 .....	54.6	49.4	73.1	133.9	148.0	142.9	160.1
1981 .....	44.3	43.3	85.1	147.0	150.2	138.9	173.3
1982 .....	42.2	40.2	61.1	144.9	152.0	142.9	173.3
1983 .....	55.7	54.5	79.5	142.9	148.0	137.0	166.7
1984 .....	66.6	66.6	98.6	148.0	148.0	145.7	153.4
1985 .....	70.8	68.6	112.6	159.0	164.0	160.0	173.3
1986 .....	97.7	94.8	127.1	130.0	134.0	128.8	146.8
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	101.6	103.0	133.9	131.8	130.0	125.7	140.0
1989 .....	92.5	95.9	126.6	138.9	132.0	131.4	133.3
1990 .....	92.3	94.2	128.1	138.8	136.0	134.3	140.0
1991 .....	86.2	87.0	130.6	151.4	150.0	148.8	153.3
1992 .....	87.7	87.7	140.3	160.0	160.0	154.3	173.3
1993 .....	84.8	84.9	130.8	154.2	154.0	151.4	160.0
1994 .....	84.1	84.7	105.0	124.9	124.0	120.0	133.3
<b>Average annual percent change:</b>							
1972-94 .....	3.7	3.9	.3	-3.2	-3.4	-3.7	-2.8
1980-94 .....	-2.3	-2.6	-4.8	-2.6	-2.3	-2.8	-1.2

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 62. Inorganic pigments (SIC 2816): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	71.3	71.4	110.2	154.8	154.3	178.5	116.7
1973	72.6	75.0	119.3	164.4	180.1	182.4	112.5
1974	73.3	75.4	141.7	183.3	188.0	218.7	143.8
1975	66.1	66.6	66.5	180.5	146.4	162.8	128.2
1976	64.8	65.0	101.1	185.9	188.5	188.5	134.4
1977	64.1	64.4	62.5	144.3	143.8	188.8	122.0
1978	65.8	67.0	67.8	146.8	146.9	160.8	122.0
1979	67.8	68.7	63.6	138.0	138.3	149.2	116.7
1980	66.3	66.0	66.3	143.0	143.8	147.2	137.8
1981	66.8	66.8	66.8	140.0	142.1	146.2	137.8
1982	62.3	60.3	61.5	130.7	136.0	133.3	137.8
1983	66.4	66.7	66.4	128.8	130.1	125.5	131.4
1984	61.4	60.0	61.4	112.3	114.3	117.8	100.4
1985	64.4	62.8	66.8	114.8	116.8	117.8	116.7
1986	66.8	66.7	67.3	108.8	108.7	108.9	108.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.3	104.3	111.8	108.2	107.2	108.8	108.4
1989	107.8	104.8	110.8	100.0	100.0	100.0	116.8
1990	104.5	107.1	108.7	104.9	102.4	103.9	100.0
1991	99.9	101.8	103.1	104.2	101.2	100.0	103.1
1992	107.8	113.0	118.1	108.5	103.8	108.8	90.8
1993	107.9	111.8	117.2	108.7	104.8	108.8	90.8
1994	113.2	115.5	118.7	105.7	103.8	111.8	90.8
<b>Average annual percent change:</b>							
1972-84	2.1	2.2	.4	-1.7	-1.8	-2.1	-1.2
1980-84	2.0	1.9	2.2	.2	.3	1.8	-2.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 63. Industrial inorganic chemicals, not elsewhere classified (SIC 2819 part): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	85.8	84.5	87.7	102.4	103.7	115.9	84.7
1973	80.8	89.5	94.1	103.9	105.2	116.2	88.0
1974	93.9	92.9	103.8	110.5	111.7	123.4	94.0
1975	78.0	74.0	88.1	117.3	120.4	128.1	111.3
1976	85.1	83.8	102.1	120.0	122.1	127.1	114.7
1977	88.9	89.0	114.0	128.9	128.1	136.4	115.3
1978	92.6	91.7	123.7	133.8	134.9	143.0	122.7
1979	91.5	91.9	121.9	133.2	136.8	140.4	120.7
1980	83.3	82.2	118.4	142.2	144.0	148.2	138.0
1981	77.1	78.4	108.6	140.9	142.2	143.8	140.0
1982	71.0	68.7	93.3	131.4	136.7	137.4	135.3
1983	77.5	74.4	95.9	123.8	128.9	131.7	124.7
1984	86.4	87.5	108.8	120.8	122.1	123.8	120.0
1985	87.3	87.5	102.7	117.8	117.4	118.4	116.0
1986	88.8	88.9	97.1	108.8	108.0	108.1	108.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	97.5	102.9	102.1	104.7	98.2	100.8	98.7
1989	105.9	104.9	105.7	98.8	100.8	104.3	98.3
1990	109.0	108.9	113.8	104.2	103.4	105.2	100.7
1991	102.3	104.7	110.4	107.9	105.5	107.3	102.7
1992	104.9	107.8	112.4	107.2	104.4	103.4	108.0
1993	110.7	113.1	103.8	93.8	91.8	90.1	94.0
1994	111.1	113.1	98.6	98.9	95.4	95.0	98.0
<b>Average annual percent change:</b>							
1972-84	1.2	1.3	.4	-1.7	-1.9	-1.4	-1
1980-84	.5	.7	-4.0	-4.4	-4.7	-5.2	-3.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 64. Synthetic fibers (SIC 2823, 2824): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	28.4	28.5	47.7	180.8	187.1	185.9	191.7
1971	30.1	29.0	63.3	177.3	183.9	185.5	176.5
1972	31.3	30.8	66.2	179.5	183.8	188.8	173.8
1973	38.4	37.8	71.6	188.3	188.5	184.8	175.8
1974	41.7	40.3	76.8	188.4	186.2	188.8	180.8
1975	46.9	44.2	73.3	188.4	186.8	181.8	178.8
1976	51.9	48.8	80.8	185.9	185.5	181.8	177.7
1977	58.1	58.8	91.1	154.0	161.0	160.2	162.9
1978	64.8	62.0	98.3	153.8	160.1	159.9	160.9
1979	70.9	68.3	107.3	151.4	157.0	157.5	155.9
1980	71.2	67.7	98.4	138.3	145.4	143.4	132.2
1981	71.9	68.2	98.4	132.8	138.8	137.5	147.1
1982	63.9	66.3	78.0	123.5	133.2	128.0	148.6
1983	70.0	74.5	92.9	117.7	124.8	121.9	135.4
1984	70.8	76.9	92.7	118.2	120.5	118.3	127.6
1985	70.3	76.8	98.4	108.9	112.8	109.2	123.2
1986	80.8	88.2	94.7	104.3	107.3	108.1	110.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.9	102.5	102.7	99.7	100.2	100.5	99.3
1989	104.1	102.0	107.1	103.0	105.0	105.5	103.8
1990	98.7	97.7	101.1	102.8	103.8	102.9	105.8
1991	97.5	98.1	98.0	101.5	103.0	101.4	108.0
1992	99.3	101.3	100.4	101.1	98.1	98.0	98.3
1993	112.3	113.5	104.8	93.2	92.3	94.5	95.5
1994	119.4	124.5	104.5	87.5	83.9	83.9	74.8
<b>Average annual percent change:</b>							
1980-94	5.8	6.0	5.0	-8	-8	-8	-1.5
1980-94	4.9	6.2	5.8	-3.9	-6.1	-4.1	-6.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Fiber Economics Bureau, Inc. and the Bureau of

the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 65. Soaps and detergents (SIC 2841): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	73.9	71.9	98.1	92.2	94.8	97.1	90.8
1971	75.5	72.8	65.7	97.0	90.5	92.1	97.7
1972	83.6	81.8	74.1	98.7	90.5	92.8	91.5
1973	89.1	87.9	79.9	98.6	90.9	92.4	90.5
1974	93.4	91.9	82.1	97.9	90.3	91.7	95.3
1975	88.6	85.4	74.1	98.8	90.8	90.5	92.2
1976	89.0	88.2	78.1	97.8	90.8	90.5	97.1
1977	88.2	88.4	80.4	90.1	90.9	90.8	91.4
1978	93.6	93.3	86.5	92.4	92.7	94.5	90.8
1979	91.0	80.4	85.7	94.1	94.8	97.1	90.8
1980	95.2	80.4	91.5	98.1	98.0	100.0	94.5
1981	92.0	80.1	90.7	98.6	100.7	104.7	93.9
1982	97.9	86.9	86.7	97.5	98.6	102.2	92.6
1983	95.5	85.4	82.3	98.2	94.4	95.9	92.0
1984	90.5	91.8	85.8	94.5	93.4	93.4	93.3
1985	91.5	92.0	87.4	95.5	95.0	95.0	93.3
1986	92.3	93.2	90.4	98.0	97.0	98.2	95.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.4	101.8	101.8	98.2	98.8	98.2	102.5
1989	109.4	107.4	104.9	95.9	97.7	97.1	95.3
1990	128.2	125.8	121.8	94.9	98.8	98.9	95.3
1991	128.4	122.9	119.3	94.3	97.0	98.8	94.5
1992	115.3	112.3	108.0	94.6	97.0	98.8	97.5
1993	112.6	110.9	112.9	100.3	101.8	98.8	107.4
1994	111.2	108.6	105.8	95.9	98.2	98.8	111.0
<b>Average annual percent change:</b>							
1980-94	1.9	1.9	2.8	.9	.8	.4	1.8
1980-94	-3.5	-3.8	-3.2	-3	-4	-2.2	4.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 66. Cosmetics and other toiletries (SIC 2844): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	69.0	69.5	54.8	78.4	78.9	68.8	109.3
1971	78.1	75.8	55.4	72.8	73.1	68.3	108.8
1972	85.3	85.1	63.0	73.9	74.1	60.3	105.8
1973	88.8	88.5	67.4	78.1	78.2	60.5	112.3
1974	91.9	92.2	69.3	75.4	75.1	64.3	100.0
1975	92.2	92.5	67.3	73.0	72.8	63.5	94.1
1976	91.9	92.3	72.9	79.3	79.0	68.9	100.0
1977	98.4	95.8	75.8	78.4	78.9	68.8	98.8
1978	98.2	98.7	80.9	82.4	83.8	75.0	103.4
1979	93.8	92.5	78.9	84.3	85.3	75.2	108.3
1980	83.8	84.1	71.5	85.4	85.1	77.1	103.4
1981	78.5	78.2	73.2	80.3	80.8	68.9	104.4
1982	88.3	88.1	79.7	82.4	82.8	67.8	103.4
1983	88.7	88.5	83.2	83.8	83.0	68.2	103.8
1984	87.3	87.4	88.3	88.8	88.7	68.2	104.4
1985	90.3	89.6	88.7	88.3	88.0	68.6	104.4
1986	96.8	95.8	91.4	94.8	95.4	94.2	98.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.2	102.6	110.2	104.8	107.4	107.7	108.8
1989	102.7	100.8	109.8	108.9	108.9	105.8	116.7
1990	101.1	101.4	108.2	107.0	108.7	98.4	123.5
1991	103.9	104.6	108.0	102.0	101.3	92.9	120.8
1992	108.4	110.7	113.0	104.2	102.1	92.7	123.5
1993	108.5	112.6	116.1	107.0	103.1	95.3	121.1
1994	111.8	115.2	118.8	104.3	101.2	97.0	110.8
<b>Average annual percent change:</b>							
1958-94	2.7	2.8	5.1	2.4	2.3	2.5	2.0
1990-94	2.5	3.2	1.9	-8	-1.3	-8	-2.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 67. Paints and allied products (SIC 285): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	57.7	57.8	72.4	125.5	125.1	134.4	114.8
1971	64.9	64.4	78.7	118.3	119.2	128.2	111.5
1972	67.7	68.4	81.7	120.7	119.5	127.8	110.4
1973	63.2	62.6	78.6	124.4	125.7	138.1	112.3
1974	68.9	69.6	81.9	118.8	117.8	123.7	111.2
1975	71.7	71.9	78.0	108.8	108.8	110.0	107.1
1976	73.9	74.7	81.7	110.6	108.5	112.9	108.0
1977	78.5	78.8	85.8	111.8	111.4	118.7	105.6
1978	79.8	79.8	89.0	111.8	111.8	116.3	108.3
1979	79.8	79.4	80.7	113.8	114.3	122.9	105.2
1980	77.3	78.4	88.3	111.8	112.9	115.5	110.0
1981	78.8	78.1	82.9	108.2	108.9	111.2	108.3
1982	81.9	80.9	79.2	98.8	98.0	97.8	98.5
1983	87.7	88.8	84.4	98.3	97.3	97.2	97.0
1984	93.8	92.9	93.1	99.4	100.2	102.7	97.4
1985	98.9	98.1	98.8	99.9	100.7	102.4	98.5
1986	98.0	97.7	98.9	100.9	101.2	101.8	100.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.4	101.7	102.8	101.4	101.1	102.0	100.3
1989	103.3	103.6	103.2	99.9	99.7	102.6	98.9
1990	108.3	108.7	104.3	98.1	97.8	100.7	95.0
1991	104.3	104.8	97.8	93.5	93.3	98.7	99.9
1992	102.9	103.0	98.2	93.5	93.4	99.0	98.1
1993	108.7	109.8	101.7	93.8	92.8	99.0	98.8
1994	116.5	119.0	110.0	94.4	92.5	98.7	98.5
<b>Average annual percent change:</b>							
1958-94	2.8	2.8	2.5	-3	-3	-4	-2
1990-94	2.3	2.8	1.3	-1.0	-1.4	-5	-2.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 68. Industrial organic chemicals, not elsewhere classified (SIC 2880): Indexes of output per hour and related measures, 1970-84  
(1977=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	81.9	81.6	87.4	110.5	111.2	122.8	86.5
1971	87.7	88.9	88.8	105.4	103.9	118.0	82.0
1972	88.7	84.4	70.4	107.1	103.3	119.2	85.7
1973	73.1	72.9	80.1	108.8	108.8	122.2	82.7
1974	94.0	94.2	92.1	108.7	104.4	121.4	90.1
1975	88.8	88.5	75.7	108.8	111.9	130.0	101.3
1976	78.5	78.6	88.2	115.3	116.6	127.2	102.6
1977	82.2	81.7	87.9	118.0	118.8	130.8	105.1
1978	88.5	88.2	103.5	121.0	121.5	130.0	110.2
1979	93.0	92.7	113.9	122.5	122.9	132.9	108.6
1980	81.3	80.0	100.1	123.2	125.2	130.9	117.1
1981	88.4	88.0	102.8	118.0	119.8	124.3	113.1
1982	70.5	88.9	82.2	118.8	118.3	120.2	118.2
1983	94.2	92.8	94.2	111.9	113.8	118.2	110.8
1984	88.6	88.4	97.8	108.9	110.4	112.3	107.8
1985	87.8	88.5	88.0	101.4	103.0	104.1	101.4
1986	92.3	92.1	86.2	92.3	92.5	94.8	89.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	110.5	110.9	108.7	98.3	98.0	105.4	104.4
1989	110.5	111.7	115.0	104.1	103.0	108.4	104.4
1990	98.0	100.5	108.5	109.5	107.9	108.0	107.8
1991	92.8	94.0	102.2	110.3	108.8	101.0	117.8
1992	91.8	92.4	100.9	110.1	108.2	95.1	125.7
1993	88.5	88.3	95.5	107.9	108.9	99.8	115.2
1994	98.8	97.9	94.9	102.4	101.1	101.8	100.4
Average annual percent change:							
1983-84	3.1	3.2	3.6	.4	.3	-.1	1.0
1980-84	-8	-7	-2.3	-1.7	-1.8	-1.5	-1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 69. Agricultural chemicals (SIC 287): Indexes of output per hour and related measures, 1972-84  
(1977=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	58.3	58.1	60.1	118.5	119.0	128.8	108.9
1973	68.8	67.3	78.3	117.1	116.2	125.1	102.4
1974	73.2	73.4	90.6	123.8	123.4	135.7	104.4
1975	65.9	65.9	85.2	129.3	128.4	138.4	113.7
1976	70.8	71.2	92.0	129.9	129.1	137.0	117.0
1977	75.2	74.8	100.1	133.0	133.8	145.1	118.4
1978	77.8	77.0	101.8	131.2	132.3	140.9	118.8
1979	77.3	78.0	102.8	133.0	131.8	143.1	114.3
1980	75.3	77.5	108.7	141.8	137.7	148.1	134.8
1981	75.4	77.7	107.0	141.8	137.7	146.1	124.5
1982	73.1	72.0	91.2	124.7	126.8	129.9	121.4
1983	82.3	80.4	91.8	111.3	113.9	117.5	108.0
1984	94.9	93.7	105.8	111.3	112.7	118.1	104.4
1985	92.4	90.8	101.0	109.2	111.4	115.8	105.0
1986	88.2	88.0	89.3	101.2	101.5	103.1	98.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.3	103.8	105.1	102.8	101.5	102.4	100.0
1989	102.1	104.1	108.4	108.2	104.2	105.7	101.9
1990	105.5	108.8	115.0	109.0	105.9	108.4	100.8
1991	108.0	110.8	111.9	105.8	101.0	102.9	98.1
1992	109.9	114.5	114.2	103.9	99.8	102.9	95.0
1993	113.7	117.7	114.8	100.9	97.5	101.2	91.8
1994	114.5	117.8	115.3	100.7	98.0	104.1	98.7
Average annual percent change:							
1972-84	3.1	3.3	2.4	-.7	-.9	-.8	-.8
1980-84	2.1	2.0	.1	-2.0	-1.9	-1.2	-3.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 70. Nitrogenous fertilizers (SIC 2873): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	59.5	59.5	76.4	128.8	128.8	125.7	114.0
1973	65.4	67.4	83.8	128.2	124.3	140.1	100.0
1974	69.4	69.6	86.0	138.9	138.5	158.0	100.5
1975	65.4	68.8	86.3	146.8	143.1	158.0	100.8
1976	64.8	68.1	103.9	163.3	152.5	164.7	134.8
1977	67.2	68.3	111.5	165.8	163.3	175.8	145.0
1978	70.0	68.8	113.7	162.4	163.3	168.8	100.7
1979	72.7	72.6	108.6	149.5	149.7	158.0	137.9
1980	80.5	80.4	119.4	148.4	148.8	160.1	131.1
1981	78.9	79.8	115.0	149.5	144.4	151.3	134.8
1982	73.8	73.6	103.3	140.3	140.4	140.1	141.4
1983	84.1	82.9	97.8	116.1	117.7	113.3	124.2
1984	101.1	99.5	114.1	112.8	114.7	115.4	114.0
1985	100.7	97.5	114.8	114.0	117.7	120.0	114.0
1986	90.5	91.9	81.9	90.8	89.2	88.9	88.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.3	102.8	100.1	98.8	97.3	97.8	98.6
1989	103.3	108.3	102.0	98.8	95.9	97.8	93.1
1990	107.7	108.4	110.9	102.9	101.4	108.7	92.1
1991	104.4	111.1	108.8	101.0	98.8	104.4	88.7
1992	111.8	113.8	107.5	96.1	94.8	104.4	79.3
1993	117.5	120.9	114.4	97.4	94.8	104.4	79.3
1994	111.1	114.1	123.3	111.0	108.1	120.0	88.7
<b>Average annual percent change:</b>							
1972-84	3.0	3.0	2.3	.7	.7	.6	-1.1
1980-84	.8	1.1	2.7	1.9	1.8	3.0	-8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 71. Phosphate fertilizers (SIC 2874): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	51.3	51.4	82.4	180.5	180.3	177.1	128.0
1973	62.4	63.4	89.3	143.0	140.8	157.4	100.3
1974	69.2	70.8	112.4	162.5	158.2	180.0	118.8
1975	56.7	56.3	87.1	171.3	172.3	191.7	134.3
1976	63.4	62.9	100.8	158.9	160.3	176.4	131.2
1977	71.2	71.3	110.5	155.2	154.9	168.7	134.3
1978	70.0	70.8	110.4	157.8	156.0	167.2	134.3
1979	68.3	70.1	112.3	164.3	160.3	172.2	137.4
1980	67.8	70.8	118.8	175.8	167.8	180.3	143.7
1981	61.0	63.3	106.3	174.1	167.8	177.1	148.9
1982	62.5	60.8	93.5	146.5	153.8	159.0	143.7
1983	77.4	76.0	105.5	138.3	138.8	149.1	116.7
1984	88.4	87.3	122.0	138.0	138.8	146.9	128.0
1985	84.2	81.7	114.3	135.7	136.8	142.8	134.3
1986	79.8	77.3	93.9	117.9	121.5	118.7	126.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	82.0	94.4	104.4	113.5	110.8	114.5	108.1
1989	83.3	84.1	97.5	116.9	116.0	121.0	108.3
1990	99.7	104.8	117.1	117.5	111.7	121.0	95.8
1991	107.3	111.9	122.7	114.3	108.8	117.7	95.8
1992	105.0	113.8	114.9	109.4	101.1	108.1	97.5
1993	105.8	108.4	108.4	102.5	100.0	108.5	97.5
1994	122.4	126.5	114.4	93.5	90.4	100.0	71.9
<b>Average annual percent change:</b>							
1972-84	4.0	4.2	1.5	-2.4	-2.6	-2.6	-2.8
1980-84	5.3	4.8	-8	-5.6	-5.2	-4.7	-6.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 72. Fertilizers, mixing only (SIC 2875): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972 .....	95.8	93.7	127.2	148.2	152.0	153.3	148.9
1973 .....	90.5	89.1	142.7	157.7	160.1	163.9	163.5
1974 .....	103.4	99.5	147.4	142.6	148.1	153.3	139.2
1975 .....	102.7	98.3	145.8	141.8	148.1	151.2	142.7
1976 .....	110.3	107.4	148.1	136.2	136.8	142.5	132.0
1977 .....	105.7	103.3	171.0	181.7	185.5	172.4	183.5
1978 .....	107.4	104.3	151.7	141.3	145.5	148.9	139.2
1979 .....	110.9	114.0	158.2	142.6	138.8	151.2	117.8
1980 .....	92.6	90.1	164.9	178.1	168.1	163.9	175.0
1981 .....	83.5	86.2	141.3	160.2	160.1	157.5	164.2
1982 .....	79.3	78.8	103.0	129.9	130.7	127.7	135.7
1983 .....	91.0	88.3	108.8	120.4	124.2	123.5	125.0
1984 .....	97.8	95.6	108.3	110.8	113.3	117.1	107.1
1985 .....	100.8	99.9	108.2	107.4	108.4	110.7	107.1
1986 .....	95.1	94.6	103.5	108.8	108.4	108.8	110.7
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	104.7	103.2	103.2	98.8	100.0	100.0	100.0
1989 .....	112.4	115.1	98.8	98.8	98.7	97.2	95.7
1990 .....	112.8	118.3	112.0	98.3	94.7	91.5	100.0
1991 .....	114.8	120.7	107.8	94.1	98.3	97.2	92.9
1992 .....	127.1	134.8	124.0	97.5	92.0	98.4	98.4
1993 .....	139.1	148.9	131.3	94.4	98.3	91.5	95.7
1994 .....	118.9	123.6	128.8	108.2	104.0	108.5	98.4
Average annual percent change:							
1972-84 .....	1.5	1.8	.0	-1.4	-1.7	-1.8	-2.0
1980-84 .....	1.3	1.1	3.5	2.2	2.4	4.4	.9

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 73. Agricultural chemicals, not elsewhere classified (SIC 2879): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972 .....	84.0	82.4	47.2	73.8	75.7	74.7	77.2
1973 .....	74.3	73.5	57.0	76.7	77.8	75.8	80.0
1974 .....	78.7	78.7	68.8	84.9	84.9	84.8	85.8
1975 .....	88.8	70.2	62.8	88.7	88.3	88.0	88.0
1976 .....	75.8	75.2	72.0	95.2	95.7	94.8	97.2
1977 .....	94.2	81.9	76.2	90.4	93.0	102.2	81.3
1978 .....	88.2	85.8	84.0	95.2	98.1	108.8	87.2
1979 .....	83.8	81.9	85.0	101.8	103.7	112.3	92.9
1980 .....	81.2	80.8	81.5	100.3	101.1	107.8	92.9
1981 .....	94.5	92.9	98.3	105.1	108.9	117.7	92.9
1982 .....	84.3	82.0	84.0	98.7	102.5	108.8	97.2
1983 .....	87.1	84.0	78.1	98.7	93.0	98.8	98.0
1984 .....	98.8	98.4	93.5	94.8	95.0	101.1	87.2
1985 .....	92.9	92.2	85.7	92.3	93.0	97.9	87.2
1986 .....	93.2	93.9	86.3	92.8	91.9	98.7	88.7
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	108.4	108.8	108.4	100.0	98.8	97.8	100.0
1989 .....	108.9	110.8	121.1	111.3	108.3	108.8	110.0
1990 .....	108.2	107.5	118.2	111.2	108.9	112.1	107.1
1991 .....	102.2	107.5	110.1	107.8	102.5	100.0	105.7
1992 .....	108.4	110.8	118.3	107.4	105.0	105.5	104.3
1993 .....	111.0	114.8	118.2	104.7	101.2	101.1	101.4
1994 .....	115.8	117.6	111.7	98.6	95.0	98.7	92.9
Average annual percent change:							
1972-84 .....	2.7	2.9	4.0	1.2	1.0	1.2	.8
1980-84 .....	2.1	2.3	-1.4	-3.5	-3.8	-3.8	-3.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 74. Petroleum refining (SIC 291): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	85.8	85.5	85.2	129.8	130.1	128.7	131.7
1971	88.1	88.4	88.0	127.4	128.7	123.9	132.2
1972	78.8	75.7	92.1	120.3	121.7	118.7	120.7
1973	84.0	82.1	97.0	115.5	118.2	114.3	119.8
1974	79.9	75.9	94.2	122.5	124.1	122.0	121.0
1975	80.0	78.0	94.7	118.3	121.4	116.8	124.4
1976	83.0	82.8	101.6	122.5	122.8	118.2	126.8
1977	88.7	87.7	108.6	122.4	123.8	118.1	129.1
1978	88.7	88.4	108.8	123.7	122.8	117.0	128.4
1979	82.8	82.8	108.1	130.8	130.8	121.4	144.7
1980	81.7	81.2	100.7	123.3	124.0	115.8	126.2
1981	72.7	72.8	95.7	131.7	131.4	121.0	147.8
1982	89.9	89.8	91.8	131.1	131.2	118.9	162.4
1983	71.5	71.3	90.1	128.1	128.4	115.0	146.0
1984	78.7	77.8	93.9	119.4	120.7	108.1	148.0
1985	84.7	83.2	94.0	111.0	113.0	102.9	130.8
1986	94.9	94.8	98.3	104.8	104.7	98.8	113.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.3	108.3	102.5	97.4	98.5	98.9	98.8
1989	109.8	110.3	103.3	94.3	93.7	94.0	93.2
1990	109.2	110.5	104.0	95.3	94.1	94.8	93.2
1991	105.8	107.2	104.1	97.8	97.0	96.8	97.4
1992	111.3	111.1	105.7	95.0	95.2	95.9	92.3
1993	120.1	121.0	108.4	90.2	98.8	90.7	97.7
1994	123.8	124.8	108.4	87.5	87.0	87.8	98.0
<b>Average annual percent change:</b>							
1947-94	4.1	4.0	2.5	-1.5	-1.5	-1.8	-1.8
1990-94	3.2	3.0	1.0	-2.1	-1.9	-1.8	-2.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S.

Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 75. Tires and inner tubes (SIC 301): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	51.7	51.4	79.1	152.8	153.8	146.0	166.7
1971	55.8	55.3	88.7	159.8	160.3	153.2	169.8
1972	57.7	58.9	96.8	167.9	164.3	158.3	160.8
1973	58.0	58.7	97.7	174.4	175.3	168.0	205.4
1974	54.8	55.3	99.0	180.7	179.1	170.9	214.8
1975	54.1	52.8	85.7	158.4	162.4	162.0	203.8
1976	59.2	53.7	85.1	143.8	158.7	149.8	198.0
1977	59.5	60.0	104.8	175.8	174.3	168.0	200.8
1978	64.3	64.8	101.5	157.9	157.2	154.2	170.3
1979	63.9	62.3	98.3	153.7	157.7	154.2	173.8
1980	60.7	57.5	76.7	126.4	133.3	126.0	164.9
1981	70.0	67.9	82.4	117.6	121.3	118.7	132.8
1982	76.2	72.5	77.9	102.2	107.5	103.8	122.7
1983	81.4	81.6	83.8	102.7	102.5	98.4	114.8
1984	88.8	88.8	98.8	108.8	107.8	107.2	110.2
1985	88.3	86.1	92.5	103.8	107.5	108.3	112.5
1986	92.6	90.2	89.9	97.1	98.7	98.3	105.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.8	104.7	103.0	100.1	98.4	98.8	94.8
1989	103.8	103.5	103.4	99.7	99.9	104.8	98.0
1990	103.0	101.1	100.2	97.3	99.2	101.5	93.4
1991	102.4	99.1	93.8	91.6	94.7	97.0	98.8
1992	107.8	109.3	104.4	98.8	95.5	99.5	95.5
1993	116.5	116.0	111.1	95.2	95.8	99.0	97.8
1994	119.9	120.7	112.9	94.2	93.5	94.3	91.7
<b>Average annual percent change:</b>							
1947-94	3.7	3.7	2.2	-1.4	-1.4	-1.4	-1.4
1990-94	3.9	4.5	3.0	-8	-1.5	-1.8	-8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association and the

Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 76. Rubber and plastic hose and belting (SIC 3052): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	73.2	73.2	100.0	137.3	137.3	138.2	140.7
1973	78.4	78.0	98.8	125.8	129.7	133.3	120.9
1974	83.8	82.3	110.8	132.3	134.4	140.4	119.4
1975	88.1	82.8	97.2	112.8	117.3	117.1	118.0
1976	88.8	81.8	105.1	121.4	128.8	125.4	137.8
1977	84.0	81.8	121.0	144.1	148.2	141.0	168.4
1978	82.2	80.9	133.1	181.9	184.5	154.8	189.0
1979	81.9	80.4	134.1	183.7	186.7	156.7	182.3
1980	78.3	73.2	102.2	133.0	139.8	128.5	167.8
1981	88.7	85.2	110.3	111.7	115.9	121.7	101.3
1982	87.8	81.3	87.2	98.3	107.3	108.8	108.1
1983	97.7	92.3	98.7	98.8	98.1	95.7	98.8
1984	104.9	101.5	108.0	103.0	108.4	109.1	100.0
1985	100.1	98.5	99.0	98.9	102.6	104.2	98.5
1986	102.1	100.0	98.1	97.1	99.1	100.8	95.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	108.2	110.9	110.9	102.5	100.0	118.4	99.1
1989	97.8	98.5	101.6	103.0	103.2	122.8	70.2
1990	103.3	103.7	102.8	98.8	98.2	118.4	87.0
1991	98.1	95.3	98.8	92.5	93.3	112.0	81.7
1992	104.3	103.8	98.8	92.8	93.3	113.3	98.6
1993	111.3	111.5	105.3	94.8	94.4	118.8	87.4
1994	104.9	108.5	108.5	103.4	100.0	125.3	87.4
<b>Average annual percent change:</b>							
1972-84	1.8	1.8	.3	-1.3	-1.4	-4	-4.0
1980-84	.4	1.1	1.4	.9	.2	1.4	-3.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 77. Miscellaneous plastics products, not elsewhere classified (SIC 308): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	67.9	67.1	39.2	57.7	58.4	58.4	54.2
1973	72.8	71.7	48.9	64.5	65.5	66.9	60.2
1974	67.7	65.9	43.1	63.7	65.5	66.1	62.8
1975	66.7	64.9	37.1	65.7	57.2	56.1	61.2
1976	66.4	68.1	44.3	63.8	65.0	65.0	64.7
1977	77.7	78.5	55.1	70.9	72.0	72.8	69.8
1978	78.3	77.3	61.1	78.0	79.0	79.8	75.7
1979	74.3	72.9	60.7	81.7	83.2	84.0	80.0
1980	78.1	73.3	57.8	76.7	78.8	78.1	80.0
1981	78.5	74.9	61.0	79.7	81.4	81.2	81.5
1982	85.5	82.7	64.0	74.8	77.3	78.5	80.7
1983	84.1	84.1	68.5	81.5	81.5	81.5	81.5
1984	88.4	88.7	79.0	91.5	91.2	92.2	87.8
1985	88.2	87.7	81.8	92.8	93.3	93.7	91.7
1986	88.9	88.8	86.3	98.0	98.1	98.5	94.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.1	100.1	103.8	103.4	103.4	103.9	101.8
1989	101.1	100.9	107.2	108.1	108.3	108.8	104.9
1990	105.3	104.5	111.7	108.1	108.9	108.9	108.9
1991	107.5	107.1	111.8	104.0	104.4	103.3	108.3
1992	114.0	114.2	121.7	108.8	108.8	105.7	110.0
1993	118.2	117.3	130.7	112.5	111.5	110.8	114.0
1994	119.7	121.7	143.4	119.8	117.8	117.7	118.0
<b>Average annual percent change:</b>							
1972-84	2.6	2.7	6.1	3.4	3.2	3.2	3.6
1980-84	3.3	3.9	6.4	3.1	2.5	2.4	2.6

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 78. Footwear, except rubber (SIC 314): Indexes of output per hour and related measures, 1970-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	92.1	91.2	245.9	394.0	289.8	276.7	292.3
1971	95.0	93.1	232.2	244.3	249.5	254.8	214.8
1972	92.9	93.1	230.5	248.0	247.8	252.7	214.8
1973	90.7	89.5	213.7	235.6	239.7	243.2	209.1
1974	89.5	88.8	197.8	220.9	227.3	230.2	211.3
1975	93.6	90.1	184.8	197.1	204.8	207.8	184.1
1976	94.6	91.1	191.7	202.6	210.4	214.0	184.1
1977	94.8	90.8	185.7	198.0	204.8	207.8	181.9
1978	97.0	91.8	185.8	191.4	202.2	208.7	170.9
1979	94.5	89.8	174.6	194.7	194.5	198.5	160.8
1980	93.5	89.0	169.0	180.7	189.9	191.2	178.9
1981	93.3	87.2	163.7	181.2	187.7	188.5	174.2
1982	99.7	93.3	189.1	189.5	170.8	172.7	167.2
1983	97.2	92.7	147.7	152.0	159.4	161.0	148.4
1984	98.8	92.9	132.1	133.8	142.3	143.0	139.3
1985	100.3	95.8	115.9	115.5	121.0	121.8	116.8
1986	101.9	95.2	102.7	100.8	108.7	108.2	110.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.3	101.0	98.3	97.1	98.3	97.2	105.1
1989	100.8	99.8	91.8	91.1	92.1	91.3	97.4
1990	92.8	89.9	79.2	85.4	88.1	88.8	88.7
1991	93.1	89.7	72.0	77.3	80.2	78.4	91.8
1992	93.3	91.6	70.2	75.2	78.8	74.1	92.3
1993	97.2	98.0	72.5	74.8	74.0	70.9	93.2
1994	102.7	102.0	70.4	88.5	89.0	88.9	88.0
Average annual percent change:							
1947-84	1.0	1.0	-2.4	-3.4	-3.3	-3.5	-1.9
1980-84	2.6	3.2	-2.9	-6.4	-6.9	-6.7	-2.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 79. Glass containers (SIC 3221): Indexes of output per hour and related measures, 1970-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	70.5	71.3	128.9	182.0	180.7	184.2	188.7
1971	71.9	72.2	126.9	175.6	175.8	177.4	182.5
1972	71.8	72.6	128.9	179.6	177.8	179.1	184.5
1973	75.2	74.8	132.8	178.3	177.8	179.1	188.4
1974	80.8	79.8	131.4	182.6	184.8	188.8	184.8
1975	80.3	77.3	131.7	184.0	170.4	171.7	180.7
1976	80.2	80.8	138.9	174.3	173.5	175.3	180.7
1977	81.9	80.2	138.3	188.9	172.4	173.5	182.5
1978	81.3	81.3	144.0	177.0	177.1	178.7	184.5
1979	83.8	82.8	136.8	163.0	184.7	188.0	184.8
1980	85.9	85.2	133.7	155.7	157.0	158.8	188.7
1981	88.7	88.2	130.8	145.9	148.5	148.2	148.9
1982	88.1	85.5	123.0	142.0	143.9	143.9	143.1
1983	85.4	85.1	114.0	133.4	134.0	133.7	135.2
1984	97.4	94.0	111.0	113.8	118.1	117.8	121.8
1985	93.4	94.8	101.7	108.9	107.3	108.9	109.7
1986	98.5	100.2	104.4	108.0	104.2	105.0	98.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.8	98.1	97.6	98.0	98.4	98.3	91.1
1989	101.8	103.0	97.5	95.9	94.7	95.5	98.7
1990	107.5	109.2	98.8	90.0	88.8	89.1	84.4
1991	108.1	110.7	92.9	88.0	84.0	84.4	80.0
1992	111.5	115.6	93.2	83.8	80.8	80.7	80.0
1993	108.0	110.8	87.5	82.5	79.1	78.7	82.2
1994	111.7	117.5	88.7	77.5	73.7	73.3	77.8
Average annual percent change:							
1947-84	1.7	1.8	.7	-9	-9	-1.0	-8
1980-84	1.0	1.8	-2.7	-3.7	-4.5	-4.8	-2.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 80. Hydraulic cement (SIC 324): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employee		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	80.8	80.1	96.1	158.9	158.1	167.8	128.3
1971	88.7	88.5	100.2	150.1	150.5	160.1	121.8
1972	87.9	87.4	105.9	155.9	157.1	167.6	124.0
1973	71.3	70.6	109.7	153.9	155.4	166.0	126.1
1974	85.3	83.8	103.8	158.6	162.4	171.8	132.8
1975	80.8	80.0	87.2	144.0	150.3	157.2	128.3
1976	85.1	83.5	93.4	141.3	147.2	153.9	126.1
1977	71.5	69.2	100.8	141.0	145.8	153.1	121.8
1978	72.5	71.8	107.8	148.4	150.3	158.1	126.2
1979	88.7	87.9	108.2	157.6	158.3	160.2	128.3
1980	62.3	60.5	98.3	154.5	159.3	168.8	134.8
1981	85.3	82.5	92.1	141.0	147.2	153.9	128.2
1982	87.4	83.0	81.2	120.5	128.0	131.8	119.8
1983	77.5	74.3	88.9	116.0	121.0	122.8	115.3
1984	88.4	83.8	99.3	111.0	118.4	119.9	113.0
1985	91.8	89.5	99.5	108.4	111.1	109.8	115.3
1986	97.1	97.4	100.8	103.8	103.2	102.8	104.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.2	104.3	98.3	95.2	94.2	93.1	97.9
1989	110.2	109.9	98.8	89.7	89.9	88.8	93.8
1990	112.4	112.8	98.6	87.7	87.4	86.9	89.4
1991	108.3	108.2	94.1	86.9	87.0	85.8	91.5
1992	115.1	115.7	99.0	86.0	85.5	85.0	87.2
1993	119.9	121.4	105.0	87.6	86.5	88.3	87.2
1994	125.6	128.5	111.1	86.5	86.5	86.0	91.5
Average annual percent change:							
1947-94	3.8	3.8	1.8	-1.9	-1.9	-2.2	-4
1990-94	2.8	3.3	3.0	.2	.3	.8	.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior.

**Table 81. Structural clay products (SIC 325): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employee		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	71.5	71.9	109.6	153.3	152.5	154.0	148.0
1971	78.2	78.7	111.2	145.9	144.9	145.5	143.8
1972	78.3	78.2	117.2	148.8	148.9	154.8	131.0
1973	81.5	80.7	120.1	147.4	148.8	158.5	119.7
1974	84.2	83.5	128.3	150.0	151.2	156.5	131.0
1975	81.9	79.8	107.4	131.0	134.9	136.1	131.0
1976	84.7	81.5	110.2	130.2	135.3	136.9	129.7
1977	90.2	88.6	115.4	128.0	130.3	133.2	119.7
1978	92.8	92.3	124.2	133.9	134.5	139.3	115.5
1979	86.9	84.1	118.8	136.6	141.3	144.5	129.5
1980	87.7	86.4	107.1	122.1	125.4	124.2	131.0
1981	91.1	88.4	99.8	109.5	112.9	113.2	111.2
1982	90.8	87.8	75.8	83.7	86.4	86.1	91.8
1983	92.2	93.0	87.6	95.1	94.2	92.0	102.7
1984	95.2	95.5	99.4	103.3	104.1	108.6	94.4
1985	95.1	95.4	99.3	104.4	104.1	105.1	100.0
1986	98.5	98.4	105.7	108.5	109.7	109.1	111.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.8	102.6	101.1	98.6	98.8	99.3	98.8
1989	99.2	99.7	101.4	102.2	101.7	102.5	98.8
1990	103.2	102.3	100.5	97.4	98.3	97.8	100.0
1991	98.5	98.7	98.6	90.0	91.8	90.8	98.8
1992	100.0	99.2	98.9	98.9	98.6	97.3	98.8
1993	99.5	100.0	97.9	98.3	97.9	95.8	98.8
1994	107.5	110.4	97.3	90.8	98.2	98.9	93.0
Average annual percent change:							
1958-94	2.3	2.4	.1	-2.1	-2.3	-2.5	-1.3
1990-94	1.0	1.9	-.8	-1.8	-2.7	-2.9	-1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 82. Clay construction products (SIC 3251, 3253, 3259): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	68.4	68.8	68.8	144.4	143.5	145.3	137.2
1971	75.4	76.3	104.4	138.5	138.9	138.1	131.7
1972	77.1	77.2	111.1	144.2	143.9	146.1	122.2
1973	78.5	77.6	111.1	141.5	143.2	146.6	116.7
1974	78.5	76.0	107.9	141.0	141.9	145.8	126.1
1975	76.2	74.8	90.8	118.0	121.1	122.0	116.7
1976	80.9	78.0	98.0	121.2	125.8	128.7	120.4
1977	88.7	84.6	101.5	117.1	119.9	122.0	111.2
1978	88.6	87.5	107.8	121.5	123.0	127.3	105.7
1979	79.0	77.5	101.1	126.0	130.5	131.8	126.9
1980	80.4	79.0	92.6	115.1	117.2	115.9	124.2
1981	82.4	79.7	82.3	99.8	103.2	102.7	105.7
1982	87.4	85.3	67.4	77.2	79.1	76.1	83.3
1983	85.0	88.1	78.8	92.7	91.5	88.8	103.7
1984	92.7	92.1	91.7	99.0	99.8	101.7	90.7
1985	94.2	94.8	97.2	103.2	102.5	103.5	98.2
1986	115.5	95.8	105.1	110.0	109.9	109.8	111.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.2	103.0	101.2	98.2	98.2	98.7	98.3
1989	98.3	98.6	99.0	100.8	100.4	100.9	98.1
1990	102.3	101.3	98.8	98.5	97.5	98.9	100.0
1991	97.4	95.4	88.2	88.5	90.4	88.8	88.1
1992	98.9	97.8	88.0	87.0	87.9	88.0	88.3
1993	102.3	102.3	91.4	88.4	88.4	88.8	100.0
1994	107.7	110.3	98.3	89.3	87.2	85.5	84.4
<b>Average annual percent change:</b>							
1958-94	2.3	2.4	.0	-2.2	-2.4	-2.8	-1.4
1990-94	1.3	2.2	-.8	-1.9	-2.8	-3.1	-1.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 83. Brick and structural clay tile (SIC 3251): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	78.8	77.8	109.2	138.7	140.4	145.8	118.8
1971	85.9	85.2	119.0	138.6	138.0	141.0	124.8
1972	88.9	87.2	126.8	145.8	145.2	152.3	118.7
1973	86.2	85.4	123.6	143.4	144.7	151.4	118.7
1974	88.2	87.4	123.3	139.7	141.0	147.0	118.7
1975	87.8	85.8	100.8	114.8	117.5	120.3	108.2
1976	97.5	92.4	112.6	115.5	121.8	123.7	112.4
1977	97.4	94.7	116.9	120.0	123.4	128.9	109.3
1978	94.2	92.3	120.0	127.4	130.1	135.9	108.2
1979	83.8	81.0	111.7	133.7	137.8	138.0	137.3
1980	83.5	80.5	97.9	117.3	121.8	117.3	140.8
1981	83.4	79.8	81.4	97.6	102.3	100.7	108.3
1982	87.9	85.1	84.1	72.9	75.3	73.9	81.2
1983	84.4	84.5	78.4	92.9	92.8	87.3	115.8
1984	91.4	89.8	91.4	100.0	101.8	103.7	89.7
1985	97.8	97.1	105.3	107.7	108.4	108.7	103.1
1986	95.5	95.5	108.9	115.1	115.1	114.9	115.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.8	104.9	99.3	93.9	94.8	94.8	93.8
1989	98.8	99.1	98.1	97.3	97.0	96.3	100.0
1990	99.1	99.0	92.4	93.2	93.4	92.5	98.9
1991	99.1	98.4	81.3	82.1	84.3	82.8	98.8
1992	100.4	97.7	83.6	83.3	85.5	82.8	98.9
1993	98.9	97.1	86.0	88.7	88.8	83.8	109.4
1994	103.6	104.9	90.4	87.2	86.1	82.1	103.1
<b>Average annual percent change:</b>							
1958-94	1.7	1.8	-.4	-2.1	-2.1	-2.5	-8
1990-94	1.1	1.5	-.5	-1.8	-2.0	-2.9	1.6

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 84. Ceramic wall and floor tile (SIC 3253): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	48.9	50.8	48.8	99.5	96.7	92.2	111.1
1971	53.2	54.3	45.1	94.8	83.0	83.2	83.4
1972	59.8	60.8	53.0	90.0	87.3	88.4	83.4
1973	61.8	61.6	53.2	96.3	96.3	98.4	77.8
1974	58.2	58.2	58.3	98.8	98.8	98.2	100.0
1975	58.5	58.2	50.8	98.9	87.3	84.5	100.0
1976	57.9	57.9	53.1	91.8	91.8	91.0	94.8
1977	64.4	64.7	53.2	82.8	82.2	81.9	83.4
1978	74.8	76.9	61.5	82.2	80.0	81.9	72.2
1979	73.1	74.9	68.6	93.8	91.8	93.6	83.4
1980	79.3	81.2	74.4	93.8	91.6	93.8	83.4
1981	84.2	84.7	79.3	94.2	93.8	94.8	89.0
1982	88.4	88.4	88.2	78.9	78.9	79.2	77.8
1983	85.0	88.8	76.8	90.1	88.3	88.4	77.8
1984	97.2	99.6	88.0	91.8	90.4	92.2	77.8
1985	88.3	91.3	83.7	94.7	91.6	93.5	83.3
1986	94.8	95.8	98.8	102.1	101.0	101.3	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.9	99.7	102.8	99.0	103.2	105.2	94.4
1989	98.8	99.8	105.1	108.3	105.3	109.1	88.9
1990	107.8	107.8	111.2	103.2	103.2	103.9	100.0
1991	95.3	95.8	95.8	100.5	100.0	98.7	105.8
1992	98.4	99.2	93.0	98.5	93.7	94.8	88.9
1993	113.7	115.3	105.8	92.8	91.6	94.8	77.8
1994	113.0	121.0	108.6	98.9	90.5	92.2	83.3
<b>Average annual percent change:</b>							
1958-94	3.4	3.8	2.4	-1.0	-1.2	-1.2	-1.1
1980-94	1.2	2.9	-4	-1.6	-3.2	-2.9	-4.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 85. Clay refractories (SIC 3255): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	70.4	71.3	136.9	194.4	191.9	190.1	182.5
1971	69.6	69.6	126.0	181.0	181.1	181.2	182.5
1972	74.1	74.3	129.9	175.3	174.8	181.2	158.8
1973	80.1	81.4	141.0	178.1	173.3	180.5	129.4
1974	91.6	91.8	176.1	192.3	191.9	208.8	147.2
1975	81.2	78.4	152.8	188.2	185.0	204.4	170.7
1976	82.4	79.8	142.0	172.4	177.9	185.3	158.8
1977	84.7	86.0	151.9	179.2	178.5	187.4	147.2
1978	87.9	91.2	168.1	191.2	184.2	198.1	147.2
1979	93.9	87.9	166.1	178.9	189.0	208.8	141.3
1980	93.8	90.4	145.3	155.2	180.8	184.0	152.9
1981	95.2	94.7	146.3	153.8	154.5	184.0	129.4
1982	86.2	82.4	97.9	113.8	118.8	119.2	117.8
1983	103.3	103.0	110.9	107.4	107.7	108.6	108.0
1984	98.9	98.8	119.5	123.3	123.4	129.8	108.0
1985	94.9	94.6	104.9	110.6	110.9	112.8	108.0
1986	100.8	99.7	107.4	108.6	107.7	108.4	111.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.3	100.7	100.7	98.5	100.0	102.1	94.1
1989	98.5	100.0	107.8	109.5	107.8	110.6	100.0
1990	103.6	103.6	105.3	101.6	101.6	102.1	100.0
1991	97.9	97.8	94.8	98.8	98.9	95.7	100.0
1992	98.6	98.4	98.3	97.8	98.9	93.8	105.9
1993	95.0	97.6	79.3	83.5	81.3	80.9	82.4
1994	104.6	109.0	100.5	98.1	92.2	93.6	98.2
<b>Average annual percent change:</b>							
1958-94	2.3	2.6	.5	-1.8	-2.0	-2.3	-1.2
1980-94	.2	1.3	-1.2	-1.4	-2.4	-2.1	-3.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 86. Concrete products (SIC 3271, 3272): Indexes of output per hour and related measures, 1970-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employee		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	83.0	83.8	78.9	98.3	98.4	102.3	77.8
1971	88.0	87.3	85.2	98.7	97.8	103.9	81.7
1972	90.5	88.7	90.7	100.2	102.2	107.8	87.9
1973	92.5	90.9	98.2	104.0	105.8	110.7	88.2
1974	93.7	90.8	98.6	92.4	95.4	100.6	88.5
1975	91.5	87.3	78.3	87.8	89.7	91.8	84.7
1976	94.3	91.8	79.7	84.3	87.1	90.0	88.2
1977	98.2	93.9	95.2	98.8	98.8	98.8	93.0
1978	90.5	92.1	87.4	90.5	94.8	98.1	88.3
1979	91.3	87.7	88.5	94.7	98.8	101.3	91.5
1980	90.2	85.5	78.0	87.4	91.2	91.3	91.5
1981	87.0	83.4	74.8	88.0	88.7	88.7	88.9
1982	88.4	84.8	88.3	78.4	88.4	88.8	78.4
1983	98.8	92.2	73.0	78.8	79.2	79.5	78.2
1984	98.3	94.4	78.8	78.8	83.1	82.8	83.8
1985	98.5	98.1	78.7	80.1	82.9	83.8	81.0
1986	104.4	101.8	87.0	83.3	85.8	88.8	82.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.1	101.5	104.1	102.0	102.5	101.8	104.7
1989	104.8	104.5	107.5	102.8	102.9	102.2	104.7
1990	103.8	103.3	103.0	98.2	98.7	98.2	103.8
1991	104.9	102.9	92.8	98.3	98.1	97.9	98.2
1992	103.2	102.4	90.1	97.3	98.0	98.7	94.8
1993	108.3	108.1	94.8	98.8	97.0	94.8	98.2
1994	107.9	108.7	99.1	91.9	91.2	98.0	97.4
Average annual percent change:							
1955-94	2.4	2.3	3.5	1.1	1.2	.7	3.3
1980-94	1.0	1.3	-1.0	-1.9	-2.2	-2.4	-1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 87. Ready-mixed concrete (SIC 3273): Indexes of output per hour and related measures, 1970-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1970	86.7	83.1	85.4	75.4	78.7
1971	92.8	85.5	87.7	72.9	78.1
1972	95.1	91.0	80.5	84.8	88.4
1973	99.1	93.3	83.2	83.9	88.1
1974	95.9	90.5	81.3	84.8	88.9
1975	93.3	85.8	74.8	78.9	88.8
1976	94.8	87.1	73.5	77.7	84.4
1977	95.6	92.1	83.5	87.3	88.7
1978	98.1	95.2	90.8	91.8	88.4
1979	98.2	91.2	92.2	95.8	101.1
1980	90.0	84.9	10.8	98.8	84.9
1981	92.5	87.2	77.2	83.5	88.5
1982	87.7	82.0	69.0	78.7	84.1
1983	90.7	86.9	75.1	82.8	88.5
1984	92.9	91.0	78.2	84.2	88.0
1985	93.6	91.0	78.5	83.9	88.3
1986	98.0	97.0	81.8	85.2	84.3
1987	100.0	100.0	100.0	100.0	100.0
1988	100.2	98.3	99.1	98.8	98.8
1989	101.0	98.8	97.4	98.4	97.7
1990	100.2	99.4	95.1	94.9	95.7
1991	98.7	94.5	84.9	87.3	88.8
1992	98.2	97.0	88.2	87.8	88.8
1993	98.9	98.9	88.5	91.4	91.3
1994	93.1	95.2	92.6	98.5	97.2
Average annual percent change:					
1955-94	.7	.9	2.1	1.4	1.2
1980-94	-1.8	-1.1	-1.7	-2.2	-4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 88. Steel (SIC 331): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	53.6	49.4	115.5	215.8	233.7	246.4	194.4
1971	58.0	51.2	109.8	196.8	213.8	234.2	182.1
1972	59.6	55.7	118.0	198.0	211.9	223.2	176.8
1973	64.2	61.3	138.1	215.2	225.3	239.1	182.9
1974	67.8	64.0	145.5	215.2	227.2	240.3	188.8
1975	59.3	54.1	110.5	186.2	204.3	211.1	183.4
1976	61.7	57.1	117.0	189.7	204.8	212.3	181.5
1977	61.8	57.5	118.8	192.3	208.8	213.3	185.8
1978	65.1	61.8	129.2	198.6	208.9	217.8	181.4
1979	65.9	62.2	132.3	200.9	212.8	222.5	182.0
1980	65.4	59.4	113.3	173.3	180.8	185.1	177.4
1981	69.3	64.3	121.3	175.0	188.8	193.1	174.8
1982	60.8	53.6	79.1	130.5	147.7	144.9	188.2
1983	73.8	67.7	86.0	116.5	127.0	126.4	128.0
1984	81.3	78.5	95.2	117.1	124.5	128.8	118.0
1985	85.8	81.3	91.7	108.9	112.8	114.2	108.5
1986	89.7	88.2	87.8	97.9	101.9	102.9	98.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	113.5	113.9	118.2	104.2	103.8	108.2	98.2
1989	108.5	107.9	112.2	103.4	104.0	105.1	97.8
1990	110.5	108.8	113.0	102.3	102.9	104.8	98.2
1991	108.2	105.9	103.7	95.9	97.9	98.4	98.3
1992	117.7	118.8	108.0	92.8	93.3	93.1	93.9
1993	134.2	135.0	120.9	90.1	88.8	90.3	87.2
1994	142.7	145.6	129.8	90.8	88.0	88.8	87.0
<b>Average annual percent change:</b>							
1947-94	2.9	3.2	1.0	-1.9	-2.1	-2.4	-7
1980-94	6.8	7.3	3.5	-2.9	-3.6	-3.8	-3.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute; the Energy

Information Administration, U.S. Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics and the American Iron and Steel Institute.

**Table 89. Gray and ductile iron foundries (SIC 3321): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	76.0	75.7	129.5	185.9	171.1	178.0	129.4
1971	82.9	80.5	129.4	158.1	180.8	188.1	135.7
1972	88.8	87.3	148.8	168.9	167.9	173.8	140.1
1973	91.3	92.1	170.2	186.4	184.8	192.8	148.7
1974	94.1	93.0	171.3	182.0	184.1	191.4	150.5
1975	90.3	88.0	143.9	159.4	167.3	171.7	148.5
1976	89.4	87.3	144.1	161.1	165.1	168.7	148.5
1977	94.4	92.7	156.3	165.8	168.5	172.0	151.8
1978	98.9	94.7	171.3	178.8	181.0	185.1	161.4
1979	92.4	89.0	164.1	177.7	184.4	188.9	173.8
1980	88.3	81.0	128.7	149.2	158.9	157.0	168.4
1981	91.0	85.4	133.3	148.5	168.0	165.3	168.5
1982	87.9	78.0	92.1	104.8	118.1	115.2	131.8
1983	92.1	88.8	98.3	104.8	111.2	110.3	117.2
1984	98.1	98.7	115.4	116.5	119.4	119.5	119.4
1985	98.9	94.8	102.0	105.3	107.8	108.8	111.1
1986	99.3	98.7	95.3	95.9	98.5	97.1	104.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	108.0	108.9	114.4	105.9	104.1	104.9	100.7
1989	105.9	108.8	110.2	103.0	103.2	104.3	98.7
1990	107.9	108.9	108.0	98.2	99.1	99.4	98.0
1991	104.6	102.3	98.4	92.2	94.2	93.6	98.7
1992	107.7	108.7	100.6	93.5	92.6	92.8	92.8
1993	113.1	117.7	109.8	97.1	93.2	92.4	98.7
1994	115.7	123.6	120.1	103.8	97.2	98.2	92.8
<b>Average annual percent change:</b>							
1954-94	1.8	2.0	.7	-1.0	-1.3	-1.4	-4
1980-94	1.8	3.7	3.2	1.4	.5	.3	-1.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 90. Steel foundries (SIC 3324, 3325): Indexes of output per hour and related measures, 1970-84  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	93.9	94.2	133.2	141.9	141.4	150.1	111.4
1971	98.4	97.5	128.0	130.0	131.2	138.1	114.4
1972	104.4	102.8	138.0	132.2	134.2	140.8	111.6
1973	108.9	108.5	148.6	141.4	140.4	146.8	112.4
1974	116.1	115.5	177.8	153.2	153.9	164.5	116.4
1975	111.5	111.8	168.4	151.1	150.9	155.1	121.5
1976	110.1	108.4	157.6	143.1	145.3	155.8	125.7
1977	104.3	104.1	157.8	151.1	151.4	158.2	134.0
1978	102.4	101.6	163.1	159.4	160.8	167.8	135.1
1979	104.5	105.2	187.2	179.2	178.0	188.6	149.2
1980	103.5	101.2	150.8	174.5	178.4	186.7	162.5
1981	95.0	92.6	146.4	157.2	161.3	166.4	147.4
1982	92.1	85.5	108.3	115.4	124.3	122.4	130.9
1983	93.1	89.5	84.1	90.3	94.0	95.4	108.2
1984	102.4	102.5	100.2	97.8	97.7	98.8	98.9
1985	98.5	100.2	95.8	98.3	98.8	98.2	98.9
1986	104.9	103.5	91.8	97.5	98.7	97.2	98.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	95.5	97.8	103.7	108.8	108.3	108.3	95.9
1989	95.3	97.4	110.9	115.1	113.9	117.0	105.1
1990	98.9	98.2	107.8	111.3	108.7	111.3	104.1
1991	94.8	98.9	104.1	108.8	107.4	107.8	108.2
1992	95.6	98.7	98.3	102.7	99.5	100.3	98.9
1993	101.5	104.8	98.2	97.7	94.7	98.4	98.7
1994	100.3	107.5	101.0	100.8	94.0	98.4	95.6
<b>Average annual percent change:</b>							
1954-84	.7	1.0	.2	-.5	-.8	-.9	-.3
1980-84	.9	2.3	-1.8	-2.4	-3.8	-3.5	-4.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 91. Steel foundries, not elsewhere classified (SIC 3325): Indexes of output per hour and related measures, 1972-84  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	95.9	94.8	193.2	201.5	203.9	215.1	164.1
1973	96.6	97.6	209.2	216.6	214.3	226.8	170.1
1974	108.5	108.1	247.6	228.2	229.1	244.1	176.0
1975	102.9	103.8	247.5	240.8	238.8	251.3	164.0
1976	100.4	99.1	228.6	227.7	230.8	238.9	200.0
1977	98.1	98.0	229.7	239.0	239.3	248.8	212.1
1978	94.4	93.6	234.2	248.0	250.2	261.1	212.1
1979	96.0	96.4	250.8	270.7	268.4	286.8	208.0
1980	95.2	91.9	244.0	258.4	265.4	277.0	224.0
1981	85.9	82.9	195.2	227.2	235.4	243.0	208.0
1982	84.5	78.6	123.4	146.1	161.1	158.7	170.0
1983	85.2	81.5	90.4	104.9	110.9	105.1	128.0
1984	98.7	98.4	107.5	108.9	108.2	110.1	108.0
1985	98.3	94.8	94.4	98.0	98.8	98.4	100.0
1986	98.3	96.9	83.3	83.9	88.0	85.5	88.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.2	104.5	114.1	112.8	109.2	112.3	98.0
1989	103.1	104.5	126.2	124.3	122.7	128.3	110.0
1990	102.3	103.8	123.3	120.5	118.8	122.3	108.0
1991	102.7	104.1	119.8	118.4	114.8	116.8	108.0
1992	104.2	107.7	104.4	100.2	96.0	98.3	92.0
1993	109.5	113.2	112.2	102.4	99.1	101.7	90.0
1994	105.5	114.3	120.8	114.5	105.7	107.8	98.0
<b>Average annual percent change:</b>							
1972-84	.4	.9	-2.1	-2.5	-2.9	-3.1	-2.3
1980-84	.8	2.4	-.5	-1.3	-2.9	-3.1	-1.9

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 92. Primary copper (SIC 3331): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	29.5	29.2	159.5	559.1	548.3	579.8	413.5
1971	29.5	29.2	145.9	484.7	500.5	517.9	428.4
1972	31.5	31.4	163.7	519.1	522.1	563.3	390.8
1973	32.8	33.0	170.4	519.1	515.7	542.0	413.5
1974	29.5	29.2	155.1	528.5	531.1	537.9	466.3
1975	30.1	29.9	140.4	467.0	470.0	484.4	466.4
1976	34.5	34.4	149.4	432.8	433.9	434.0	428.4
1977	38.3	38.4	140.7	388.1	387.2	407.0	357.0
1978	38.0	35.9	141.8	362.8	364.0	407.0	342.7
1979	41.1	40.9	147.8	359.1	380.8	378.4	390.8
1980	38.1	35.9	112.2	294.2	312.2	311.1	314.1
1981	45.0	44.9	145.7	323.5	324.7	328.5	314.1
1982	46.8	47.0	108.3	223.8	230.4	228.8	242.7
1983	46.8	50.3	102.3	208.3	203.2	203.6	200.0
1984	57.8	58.1	107.4	188.3	181.8	178.9	200.0
1985	73.8	74.2	103.4	140.2	138.4	130.8	171.4
1986	88.7	88.7	102.5	115.8	118.2	119.0	114.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.8	103.8	113.2	109.0	109.1	107.7	114.3
1989	94.7	102.0	120.6	127.4	118.2	119.2	114.3
1990	84.9	88.6	126.2	148.8	142.4	142.3	142.9
1991	82.5	88.8	123.8	150.1	138.4	138.5	142.9
1992	71.9	77.8	131.7	183.2	189.7	181.5	200.0
1993	88.9	88.8	155.1	178.4	172.7	185.4	200.0
1994	73.9	75.6	146.6	198.3	193.9	192.3	200.0
<b>Average annual percent change:</b>							
1947-94	3.1	2.9	1.1	-2.0	-1.7	-2.0	-2
1980-94	-3.4	-3.9	3.8	7.5	8.0	7.8	8.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior;

the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 93. Primary aluminum (SIC 3334): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	88.5	88.0	104.9	153.0	154.3	155.1	151.8
1971	74.5	73.1	102.2	137.1	138.9	138.4	146.8
1972	73.7	71.7	105.9	143.7	147.8	144.9	180.0
1973	73.8	73.0	117.7	158.9	161.2	163.0	154.4
1974	82.3	80.5	128.8	158.5	160.0	162.2	151.8
1975	71.7	70.5	103.0	143.7	146.1	138.8	171.5
1976	75.8	75.2	114.1	150.8	151.8	150.7	157.3
1977	75.0	74.5	123.2	184.3	185.3	185.2	188.9
1978	74.7	75.9	130.4	174.8	171.7	172.5	188.8
1979	74.7	74.9	136.3	182.5	182.0	182.5	180.1
1980	74.9	73.4	139.2	185.8	189.7	186.2	203.1
1981	77.8	76.7	134.3	172.8	175.1	168.8	200.2
1982	80.1	74.9	97.9	122.2	130.8	138.3	117.2
1983	91.8	88.8	100.3	109.5	115.8	122.9	98.4
1984	100.7	97.9	122.6	121.8	125.3	138.3	98.4
1985	97.6	93.7	104.7	107.3	111.8	118.5	95.3
1986	102.7	98.9	90.9	88.5	91.9	88.5	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.3	101.5	118.0	115.3	118.3	123.8	98.4
1989	104.8	102.9	120.8	115.1	117.2	126.8	93.8
1990	106.5	104.5	121.1	113.7	115.8	124.2	95.3
1991	110.8	109.0	123.3	111.5	113.1	126.8	79.7
1992	109.7	107.7	120.9	110.2	112.2	126.1	78.1
1993	105.7	101.8	110.5	104.8	108.8	119.7	81.3
1994	98.6	95.8	98.7	100.1	103.2	113.4	78.1
<b>Average annual percent change:</b>							
1947-94	2.7	2.5	4.0	1.3	1.5	1.8	1.2
1980-94	-1.9	-2.2	-5.0	-3.1	-2.8	-2.2	-4.9

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior;

and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 94. Copper rolling and drawing (SIC 3351): Indexes of output per hour and related measures, 1970-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	84.0	81.5	108.5	107.0	172.7	172.5	172.0
1971	71.5	68.7	113.8	109.2	163.2	164.2	160.1
1972	73.3	73.7	123.2	108.0	167.1	168.9	165.1
1973	77.5	78.2	128.0	178.1	176.5	160.7	161.9
1974	71.2	70.8	118.0	168.8	167.1	167.5	168.0
1975	62.1	58.8	83.4	134.3	142.4	138.4	164.1
1976	71.3	70.8	105.5	148.7	150.5	150.5	152.1
1977	82.9	82.9	114.8	158.5	158.8	157.5	142.0
1978	83.4	82.8	121.0	146.3	147.3	147.2	148.0
1979	82.0	80.5	127.5	158.5	158.4	158.7	154.1
1980	73.2	71.8	98.2	134.2	137.2	134.1	148.0
1981	75.1	72.3	98.5	133.0	138.1	135.2	148.0
1982	70.4	68.3	75.2	108.7	113.4	107.2	135.3
1983	78.8	78.5	87.7	108.9	110.4	108.9	133.3
1984	84.7	85.8	98.2	117.2	118.0	111.1	133.3
1985	88.2	83.9	87.9	102.0	104.8	102.2	113.7
1986	88.3	80.4	90.4	98.0	100.0	98.4	102.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	93.0	93.3	95.3	102.5	102.2	100.8	107.8
1989	88.1	88.8	93.0	104.3	103.5	101.7	108.8
1990	80.7	80.8	90.2	98.4	100.4	98.3	107.8
1991	86.4	84.0	83.2	98.4	98.1	98.7	107.8
1992	83.0	82.5	80.0	98.3	97.0	94.4	105.8
1993	88.2	80.7	88.2	98.7	98.1	98.9	103.8
1994	85.1	80.0	88.3	104.4	101.3	100.8	103.8
Average annual percent change:							
1958-84	2.1	2.2	.8	-1.4	-1.8	-1.8	-1.4
1980-84	1.2	2.2	2.4	1.2	.2	.8	-1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Copper Development Association Inc., the Bureau

of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 95. Aluminum rolling and drawing (SIC 3353, 3354, 3355): Indexes of output per hour and related measures, 1970-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	85.4	83.3	80.0	108.3	112.5	113.7	108.7
1971	80.8	87.8	84.5	108.0	111.8	113.8	105.9
1972	71.4	70.9	78.0	109.2	110.0	114.3	98.8
1973	79.0	78.9	93.2	118.0	118.1	124.1	98.3
1974	81.0	78.4	88.8	108.8	113.3	118.8	98.8
1975	73.5	68.3	82.5	95.0	91.5	91.2	98.3
1976	85.4	82.8	84.0	98.3	101.4	105.4	98.2
1977	84.0	82.6	88.4	108.4	108.3	113.8	98.3
1978	87.3	84.6	98.8	113.1	118.7	122.0	98.3
1979	84.3	82.8	87.2	115.3	117.7	121.8	103.8
1980	84.0	81.0	91.7	108.2	113.2	114.8	108.0
1981	81.3	78.8	86.3	108.1	108.7	110.8	108.7
1982	83.3	78.3	78.8	90.7	98.5	98.2	97.8
1983	94.2	91.0	98.8	94.3	97.8	99.2	98.2
1984	82.3	80.2	88.1	98.5	98.7	101.5	98.9
1985	85.7	84.8	88.2	98.4	100.5	102.4	94.2
1986	95.8	93.4	92.1	98.1	98.8	99.0	98.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.3	98.1	97.1	100.8	98.0	98.2	101.4
1989	90.8	89.9	95.0	104.8	104.5	105.2	108.7
1990	91.2	82.8	92.0	100.9	98.1	98.9	100.0
1991	90.3	82.5	89.8	99.4	97.1	96.9	100.7
1992	98.5	100.1	98.3	92.8	99.3	99.1	99.9
1993	93.9	98.3	87.9	93.7	91.3	91.8	90.8
1994	99.8	104.0	94.4	94.7	90.8	93.2	93.3
Average annual percent change:							
1958-84	3.2	3.3	3.7	.4	.3	.3	.3
1980-84	2.3	2.9	.8	-1.8	-2.2	-1.8	-4.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 96. Metal cans (SIC 3411): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	57.2	57.6	102.5	179.2	178.0	185.0	145.3
1971	57.1	56.1	97.8	171.4	174.4	179.9	147.9
1972	58.8	58.3	101.4	173.0	173.9	179.5	148.4
1973	59.2	58.8	105.8	178.3	177.1	184.1	145.3
1974	61.5	61.2	107.3	174.5	175.4	179.5	155.2
1975	63.1	62.7	98.8	188.1	188.2	188.8	158.7
1976	67.9	67.1	104.0	183.1	185.1	188.8	147.9
1977	71.7	71.5	108.7	151.8	151.9	153.7	143.3
1978	74.2	73.0	108.2	147.1	148.8	151.2	141.9
1979	75.2	74.8	108.4	146.5	146.3	147.4	140.3
1980	74.5	74.0	100.8	136.3	138.1	138.7	137.3
1981	78.4	77.2	98.5	125.8	127.7	126.3	134.4
1982	80.4	87.4	101.5	113.5	116.1	114.9	123.7
1983	95.9	93.0	100.5	104.8	105.1	107.2	113.8
1984	101.1	98.7	103.5	102.4	104.9	104.4	108.5
1985	99.2	98.5	103.3	104.1	104.9	105.2	108.4
1986	95.9	95.4	99.2	103.5	104.0	104.9	98.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	108.9	108.7	103.2	98.5	94.9	94.8	98.5
1989	108.1	108.8	101.5	93.9	93.3	93.8	91.5
1990	117.5	117.8	108.7	90.8	90.8	90.7	98.5
1991	123.8	123.3	108.8	86.3	86.8	87.1	83.1
1992	129.7	128.2	103.0	79.4	80.3	80.9	76.3
1993	134.6	133.6	101.8	75.5	76.1	78.5	72.9
1994	140.7	139.8	108.0	75.4	75.8	75.5	78.0
Average annual percent change:							
1947-94	3.2	3.2	2.2	-9	-1.0	-1.1	-3
1980-94	4.8	4.4	-2	-4.5	-4.4	-4.5	-3.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Can Manufacturing Association, the Bureau of the

Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 97. Hand and edge tools, not elsewhere classified (SIC 3423): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	97.8	98.8	89.0	91.0	90.1	95.8	72.5
1971	101.4	101.9	85.8	85.4	85.0	85.5	68.9
1972	108.2	107.8	100.9	93.2	93.7	95.3	77.3
1973	108.6	108.3	109.1	100.5	100.8	108.4	83.9
1974	103.3	102.8	102.9	99.8	100.3	108.8	81.0
1975	100.0	98.5	98.4	99.4	90.7	95.2	77.3
1976	103.8	101.8	100.1	98.8	98.5	103.1	83.9
1977	108.3	105.0	117.8	110.8	112.2	117.9	85.2
1978	107.4	108.4	127.5	118.7	119.9	128.2	85.2
1979	111.6	109.0	132.9	119.1	122.0	127.4	108.8
1980	108.3	101.0	113.6	108.9	112.5	115.2	104.7
1981	103.0	101.0	113.9	110.8	112.8	118.3	102.8
1982	101.0	95.4	91.9	91.0	96.4	95.2	100.0
1983	98.5	92.2	88.1	91.3	95.8	94.7	98.1
1984	97.9	98.0	93.5	95.5	97.4	97.4	97.2
1985	98.8	94.8	91.7	92.8	96.9	98.1	98.4
1986	97.1	98.2	92.5	95.3	98.2	98.6	98.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.5	100.8	101.0	100.5	100.2	100.3	100.0
1989	101.0	102.3	100.8	99.8	98.8	97.8	100.9
1990	95.0	95.7	92.9	97.8	97.1	95.5	101.9
1991	93.1	93.7	89.0	95.8	95.0	92.7	101.9
1992	93.1	93.9	89.0	95.8	94.7	93.8	98.1
1993	93.3	95.5	92.8	99.5	97.1	99.7	98.8
1994	101.8	103.3	101.1	99.3	97.9	101.0	98.7
Average annual percent change:							
1958-94	.7	.8	1.8	.9	.8	.8	1.0
1980-94	1.7	1.9	2.1	.4	.2	1.4	-3.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 98. Heating equipment, except electric (SIC 3433): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	78.1	77.0	116.1	148.8	150.8	165.4	123.8
1973	78.0	78.7	122.9	157.5	158.1	173.0	125.0
1974	72.7	72.0	106.9	147.0	148.4	161.7	123.8
1975	73.9	71.0	97.7	132.1	137.8	148.8	120.8
1976	77.8	77.2	90.4	116.2	117.1	124.9	102.7
1977	90.1	87.8	110.5	122.7	125.9	140.8	98.5
1978	90.7	88.8	124.0	138.7	140.0	158.4	108.8
1979	98.2	95.2	129.1	148.8	150.4	165.4	122.1
1980	98.1	95.2	134.7	152.9	158.1	172.2	131.9
1981	93.8	79.6	104.8	125.1	131.3	134.8	126.0
1982	90.4	85.1	103.3	120.8	126.9	129.5	123.8
1983	82.7	80.5	101.8	123.1	128.4	130.1	118.4
1984	91.8	80.0	105.4	115.0	117.1	120.3	111.1
1985	91.9	91.7	107.4	116.8	117.1	122.8	108.9
1986	98.2	95.5	104.5	108.8	109.4	114.3	103.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	113.7	114.1	107.1	94.2	93.8	95.5	90.4
1989	105.0	105.9	99.3	94.6	93.8	94.2	93.2
1990	114.0	112.8	98.4	98.3	87.2	85.7	90.4
1991	119.4	117.1	97.0	91.3	82.8	78.6	91.8
1992	121.2	119.3	99.3	92.0	83.3	79.2	91.8
1993	121.8	122.5	102.5	94.2	83.7	80.5	90.4
1994	124.8	126.2	116.9	93.7	91.2	89.6	94.5
Average annual percent change:							
1972-94	2.2	2.3	.0	-2.1	-2.3	-2.7	-1.2
1980-94	2.3	3.3	4.4	2.1	1.1	1.1	1.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 99. Fabricated structural metal (SIC 3441): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	86.8	88.2	109.1	125.7	123.7	128.2	112.4
1971	92.0	92.2	108.8	119.3	119.1	123.2	108.3
1972	95.3	93.5	120.5	126.5	128.9	132.8	118.8
1973	97.1	95.5	124.3	128.0	130.2	134.7	119.1
1974	91.1	90.5	115.8	127.1	128.0	132.3	114.8
1975	82.0	80.4	102.7	125.3	127.8	132.8	115.2
1976	82.4	80.8	98.6	117.2	119.8	123.2	109.5
1977	83.5	82.1	100.8	120.7	122.8	125.8	114.8
1978	84.2	82.8	102.7	122.0	124.3	128.1	112.2
1979	85.8	84.2	113.6	132.4	134.8	141.0	119.1
1980	86.0	84.8	123.5	143.6	145.7	153.4	128.4
1981	84.3	83.2	118.9	141.1	142.9	150.9	122.5
1982	84.5	84.0	107.5	127.2	128.0	130.5	121.7
1983	87.0	86.2	100.0	114.9	115.9	116.2	115.2
1984	91.2	89.9	102.3	112.1	113.8	116.8	108.8
1985	99.0	98.2	107.8	108.9	112.0	115.8	102.8
1986	99.0	98.0	102.5	103.6	104.8	106.0	100.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.4	100.8	101.0	100.5	100.1	101.5	98.8
1989	97.8	98.0	100.2	102.6	102.2	103.3	98.5
1990	101.2	101.7	105.2	104.0	103.4	104.2	101.4
1991	104.5	103.8	101.3	96.9	97.8	97.8	97.7
1992	103.6	102.9	93.1	99.9	90.5	91.0	90.1
1993	108.1	109.0	95.9	98.8	98.0	98.1	97.8
1994	109.8	111.6	99.9	91.2	89.8	90.8	90.4
Average annual percent change:							
1988-94	1.3	1.3	.7	-6	-8	-7	-4
1990-94	2.0	2.3	-1.3	-3.2	-3.5	-3.4	-3.9

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 100. Metal doors, sash, and trim (SIC 3442): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	91.6	80.8	67.1	82.3	83.3	84.0	81.5
1971	90.3	80.2	74.3	82.3	84.2	85.1	79.8
1972	91.1	80.1	84.2	82.4	94.5	97.1	88.0
1973	90.5	80.2	82.3	80.9	90.3	95.1	88.0
1974	88.8	84.0	74.0	88.5	88.2	92.2	81.1
1975	88.3	84.2	80.6	88.6	72.0	73.4	87.8
1976	82.0	80.7	67.8	73.5	75.4	78.4	67.8
1977	97.8	94.5	93.2	85.2	88.0	91.8	78.1
1978	93.0	90.0	86.1	82.5	95.8	98.3	88.0
1979	82.6	80.8	87.8	94.9	98.0	100.0	93.0
1980	90.5	87.1	82.0	80.6	94.2	98.0	89.5
1981	90.4	88.8	85.2	94.3	96.0	97.1	93.5
1982	85.3	82.1	81.7	85.7	88.7	87.2	83.0
1983	88.4	83.6	88.2	80.7	94.3	95.2	82.0
1984	101.4	98.0	98.9	88.7	91.7	91.5	91.5
1985	104.8	102.3	97.5	93.0	95.3	94.9	98.8
1986	102.0	102.2	100.3	98.4	98.2	98.9	102.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.8	104.0	99.0	94.7	95.3	93.4	100.5
1989	105.8	105.0	100.6	95.2	95.9	94.5	100.0
1990	103.1	101.7	95.4	92.5	93.8	91.4	100.5
1991	103.0	101.7	98.6	86.0	87.2	83.4	98.1
1992	106.7	107.0	92.5	86.7	86.4	83.7	94.2
1993	105.4	105.4	93.5	88.6	88.7	86.7	94.2
1994	103.2	104.7	87.9	94.9	93.5	92.0	95.2
<b>Average annual percent change:</b>							
1987-94	.8	.9	1.3	.4	.3	.2	.7
1980-94	.0	.7	.8	.8	-.1	.4	-.13

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 101. Fabricated plate work (SIC 3443): Indexes of output per hour and related measures, 1982-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1982	87.7	84.3	120.8	137.7	143.3	132.5	182.4
1983	91.5	88.9	102.8	112.2	115.4	104.0	136.5
1984	88.3	87.5	97.5	110.5	111.5	102.6	127.2
1985	87.5	86.7	97.8	111.5	112.5	109.6	117.7
1986	86.4	85.1	88.4	102.4	103.9	101.8	108.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.2	97.1	110.4	114.7	113.7	119.5	93.7
1989	90.3	91.1	108.3	119.9	118.8	125.9	108.4
1990	94.1	94.6	112.0	119.1	118.4	124.7	107.3
1991	94.3	94.8	110.7	117.4	118.7	122.8	108.4
1992	98.3	99.0	106.2	111.1	110.3	116.3	99.7
1993	98.3	98.9	107.7	109.6	106.9	116.3	98.7
1994	108.4	110.2	119.7	110.4	106.6	119.0	90.5
<b>Average annual percent change:</b>							
1982-94	1.8	2.3	-1	-1.8	-2.3	-9	-4.8
1980-94	3.6	3.9	1.7	-1.9	-2.1	-1.2	-4.2

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 102. Bolts, nuts, rivets, and washers (SIC 3452): Indexes of output per hour and related measures, 1970-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	92.2	98.4	73.7	116.5	124.1	127.5	116.8
1971	97.9	94.3	71.0	104.5	110.5	114.4	109.7
1972	74.2	72.9	94.5	113.9	115.8	122.7	98.5
1973	75.8	77.1	95.8	125.4	124.3	122.9	103.0
1974	78.3	78.2	98.9	127.0	127.1	128.2	104.5
1975	71.7	88.2	70.9	98.8	107.1	109.8	100.1
1976	78.8	73.8	81.2	105.9	108.9	113.2	101.5
1977	79.1	77.4	89.1	112.7	115.2	120.3	102.3
1978	80.8	79.8	97.8	120.9	122.8	128.4	108.4
1979	78.9	77.4	102.2	129.5	132.1	136.2	116.8
1980	78.8	75.1	93.9	119.2	125.0	128.7	115.8
1981	81.3	77.1	94.2	115.9	122.2	125.1	116.0
1982	75.3	88.4	71.0	94.3	103.8	103.8	104.5
1983	93.8	90.0	78.0	94.5	98.8	97.8	101.5
1984	95.3	94.5	81.0	108.7	107.7	108.4	108.0
1985	98.8	98.9	93.4	105.2	107.5	108.4	105.3
1986	91.0	90.7	92.8	101.8	102.1	102.1	102.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	97.0	97.7	105.0	108.3	107.5	108.9	108.0
1989	93.8	93.3	102.7	109.5	110.0	109.9	110.8
1990	93.7	92.5	98.2	104.9	108.2	107.5	103.0
1991	98.1	92.7	93.7	97.5	101.1	101.2	100.8
1992	91.9	88.2	98.3	93.9	97.9	97.8	98.5
1993	92.8	90.5	98.5	95.4	97.9	98.5	98.2
1994	95.6	94.9	95.1	99.5	100.2	103.9	91.0
Average annual percent change:							
1983-94	.9	1.1	1.2	.3	.1	.1	.2
1980-94	.5	.8	-.8	-1.3	-1.4	-.8	-3.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 103. Metal stampings (SIC 3485, 3486, 3489): Indexes of output per hour and related measures, 1970-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	73.6	73.7	71.1	98.8	98.4	97.8	91.2
1971	81.5	78.9	75.2	92.3	94.1	95.5	87.3
1972	84.4	83.3	84.1	99.7	101.0	103.2	90.9
1973	83.8	83.7	92.5	110.4	110.8	114.1	94.9
1974	82.5	79.3	82.8	100.4	104.4	108.8	94.2
1975	80.8	75.9	88.0	94.3	98.8	90.0	87.0
1976	84.2	82.3	82.8	98.3	100.8	102.9	90.9
1977	88.6	85.5	94.1	108.8	110.1	112.8	97.9
1978	88.0	85.4	98.7	109.9	113.2	116.9	97.0
1979	87.7	83.2	92.7	105.8	111.5	115.1	98.8
1980	84.2	77.9	78.1	92.8	100.3	101.7	98.8
1981	85.4	80.8	78.3	91.8	97.1	98.8	91.2
1982	83.4	78.8	76.4	94.4	98.3	97.3	87.0
1983	91.0	88.8	83.9	92.2	93.4	92.9	98.0
1984	96.3	95.3	98.9	102.7	103.7	104.7	98.8
1985	91.9	91.9	96.8	105.4	105.3	105.9	102.5
1986	95.8	95.5	96.5	98.7	100.0	100.3	98.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.5	102.3	101.8	101.1	98.4	98.8	98.4
1989	98.5	97.2	99.5	101.1	102.4	101.8	106.8
1990	93.0	91.9	89.9	98.7	97.9	98.7	102.5
1991	92.8	92.0	94.3	91.0	91.8	90.3	98.8
1992	106.8	107.2	98.1	92.1	91.8	90.8	94.5
1993	113.1	115.9	108.5	98.0	93.7	94.1	91.9
1994	117.3	121.3	118.4	100.9	97.8	98.8	92.8
Average annual percent change:							
1983-94	1.4	1.5	2.1	.8	.8	.5	.7
1980-94	6.0	7.2	7.1	1.1	-1	.5	-2.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 104. Automotive stampings (SIC 3465): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	75.9	75.0	77.1	101.7	102.8	103.2	102.0
1973	74.8	74.9	84.7	113.0	113.0	114.3	107.0
1974	75.0	70.8	71.8	95.7	101.4	102.3	98.5
1975	74.5	68.4	61.3	82.3	88.8	90.1	87.4
1976	76.3	74.1	78.1	88.7	102.8	104.3	98.5
1977	79.2	78.8	88.6	108.4	110.3	112.8	100.0
1978	80.8	77.5	88.3	108.8	114.0	118.7	101.0
1979	61.4	75.6	79.0	97.1	104.5	108.6	95.0
1980	80.0	71.5	80.1	75.1	84.1	84.0	85.0
1981	82.8	75.4	88.8	72.2	79.2	79.3	79.0
1982	83.0	77.7	88.8	88.9	75.5	74.8	80.4
1983	88.2	86.9	77.3	80.3	88.8	81.2	77.9
1984	100.5	101.1	94.7	94.2	93.7	95.3	98.4
1985	94.5	95.8	95.2	100.7	99.5	100.7	93.5
1986	88.7	87.1	88.5	100.8	88.7	100.0	88.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.8	104.0	102.1	98.3	98.2	98.9	95.0
1989	101.8	100.3	99.3	97.5	99.0	98.4	102.0
1990	98.1	94.1	98.2	91.8	93.7	92.8	98.5
1991	97.3	95.2	88.6	82.9	84.7	84.0	88.4
1992	113.8	112.8	99.0	87.0	87.8	87.2	91.0
1993	120.8	122.9	111.5	92.3	90.7	91.9	94.9
1994	124.5	128.1	122.9	98.7	95.2	95.5	93.5
Average annual percent change:							
1972-84	2.3	2.5	2.1	.1	.3	.4	.4
1980-84	6.7	8.2	8.8	1.8	.4	.7	-1.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 105. Metal stampings, not elsewhere classified (SIC 3469): Indexes of output per hour and related measures, 1972-84  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	98.9	98.0	92.4	95.4	98.2	101.4	80.0
1973	98.8	97.1	103.4	108.8	108.5	113.9	83.0
1974	95.9	94.9	100.5	104.8	105.0	111.1	88.3
1975	88.3	88.6	75.5	84.8	87.2	87.8	85.2
1976	95.2	94.1	90.5	95.0	98.2	98.4	88.1
1977	97.3	98.2	104.0	108.9	108.1	112.1	85.1
1978	98.4	97.5	108.5	110.3	111.3	118.9	82.4
1979	100.2	97.9	117.4	117.1	119.9	127.2	95.9
1980	98.9	93.9	111.9	115.5	119.1	125.1	88.7
1981	98.9	95.2	112.4	118.0	118.1	123.8	100.4
1982	87.1	84.9	88.4	102.8	105.2	103.3	111.2
1983	87.7	87.0	93.8	107.0	107.8	107.4	108.0
1984	94.3	82.5	107.2	113.7	115.8	117.1	111.2
1985	88.6	88.6	89.4	112.1	112.2	112.9	108.9
1986	93.9	92.1	92.3	98.3	100.3	100.2	101.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.0	100.8	102.8	105.0	102.2	101.9	103.1
1989	95.3	94.7	102.5	107.5	108.3	107.5	110.8
1990	90.4	90.6	94.8	104.8	104.8	103.7	107.6
1991	88.5	90.9	92.5	103.3	101.7	100.4	105.8
1992	98.8	101.7	98.7	99.8	97.1	98.8	98.7
1993	104.8	108.3	108.9	102.0	98.8	98.5	99.1
1994	109.3	112.9	115.5	105.8	102.3	105.1	93.3
Average annual percent change:							
1972-84	.5	.7	1.0	.5	.3	.2	.7
1980-84	4.9	5.7	5.1	.2	-.8	.3	-3.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 106. Valves and pipe fittings (SIC 3491, 3492, 3494): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	94.0	98.1	94.8	101.0	98.5	103.1	99.8
1971	98.0	98.7	94.5	98.0	95.2	99.9	98.9
1972	90.8	91.0	98.7	95.5	95.3	99.9	98.5
1973	93.8	95.2	97.4	104.0	102.3	107.8	91.9
1974	95.9	91.0	98.9	115.1	108.7	114.9	98.9
1975	94.0	93.7	98.7	103.2	103.5	108.2	98.2
1976	92.9	93.2	98.3	104.1	103.8	107.3	98.9
1977	90.7	90.1	98.9	108.1	108.8	115.7	98.9
1978	91.9	91.2	104.2	113.3	114.2	121.2	100.8
1979	95.7	95.3	112.9	118.0	118.5	124.4	107.0
1980	93.5	93.1	110.3	117.9	118.5	122.8	110.8
1981	95.7	95.4	114.2	119.3	119.7	122.8	114.4
1982	92.1	99.7	104.4	113.4	118.4	114.5	130.2
1983	94.2	92.1	93.9	99.7	102.0	100.1	105.9
1984	95.0	94.8	102.1	107.5	107.9	108.8	107.2
1985	94.4	93.4	98.7	104.5	105.8	105.5	108.0
1986	93.9	93.5	93.8	99.7	100.2	99.2	102.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	101.4	103.7	109.3	107.8	105.4	107.3	101.5
1989	101.2	101.9	106.4	105.1	104.3	105.3	102.4
1990	102.1	103.2	108.2	108.0	104.9	108.1	102.4
1991	101.7	102.2	103.7	101.9	101.4	101.7	100.9
1992	100.4	100.1	100.2	99.8	97.3	97.3	97.3
1993	104.2	105.5	102.9	98.8	97.8	98.1	94.9
1994	110.1	114.7	113.2	102.8	98.7	102.3	91.6
<b>Average annual percent change:</b>							
1954-94	1.4	1.5	2.1	.7	.8	.3	1.5
1990-94	1.9	2.7	1.1	-8	-1.5	-8	-2.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 107. Fabricated pipe and fittings (SIC 3498): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	121.4	124.1	100.4	82.7	80.9	82.7	78.0
1971	124.7	123.0	101.4	81.3	82.4	84.1	78.1
1972	135.8	133.0	116.2	85.8	87.4	88.1	85.9
1973	140.8	137.9	133.6	94.9	95.9	97.3	95.9
1974	142.0	141.2	147.4	103.8	104.4	105.4	102.0
1975	132.1	129.4	133.8	101.3	103.4	104.1	102.0
1976	123.3	120.1	152.9	124.0	127.3	132.1	113.9
1977	126.3	121.0	170.3	134.8	140.8	142.7	135.9
1978	128.3	123.0	185.5	144.8	150.8	154.8	139.9
1979	116.0	113.0	185.8	160.2	164.4	172.7	139.9
1980	116.8	112.7	180.2	154.3	159.8	162.7	152.0
1981	122.2	118.3	189.0	154.6	159.8	163.5	150.0
1982	118.2	115.5	188.8	159.7	163.4	158.7	177.9
1983	115.1	112.5	164.7	143.0	146.4	144.8	152.0
1984	130.0	126.7	159.7	122.8	128.0	128.0	128.0
1985	120.0	113.8	142.9	119.0	125.5	123.3	132.0
1986	121.4	116.9	122.0	100.5	104.4	100.8	116.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	99.8	103.9	111.2	111.8	107.0	108.0	104.0
1989	102.3	103.4	109.1	106.8	105.5	104.0	110.0
1990	107.0	109.3	120.3	112.4	110.0	107.3	118.0
1991	114.2	114.9	118.3	103.6	103.0	100.0	112.0
1992	109.6	114.3	141.8	129.3	124.0	118.7	140.0
1993	113.3	118.0	151.1	133.4	128.0	125.3	136.0
1994	110.3	115.3	156.8	142.1	136.0	131.3	150.0
<b>Average annual percent change:</b>							
1958-94	.1	.3	1.9	1.8	1.8	1.8	1.7
1990-94	.8	1.3	6.8	6.0	5.4	5.2	8.2

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 108. Internal combustion engines, not elsewhere classified (SIC 3519): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	71.1	70.6	76.5	107.5	108.3	114.0	65.3
1971	74.6	72.9	75.1	100.7	103.0	108.4	60.0
1972	79.1	79.9	87.2	110.2	109.2	115.9	93.1
1973	83.1	85.5	101.3	121.8	118.5	128.8	98.9
1974	86.3	86.9	112.4	130.3	126.4	134.7	108.3
1975	80.8	78.6	95.1	118.0	121.0	124.2	113.8
1976	85.3	84.6	105.8	123.7	124.8	129.3	113.8
1977	89.5	89.5	124.3	138.9	136.8	145.2	123.8
1978	93.7	94.1	141.0	150.5	149.9	155.8	138.2
1979	86.4	84.8	134.1	155.1	158.1	164.8	141.8
1980	85.4	84.8	118.8	138.9	130.8	141.0	136.8
1981	84.9	85.0	118.3	139.3	139.2	140.5	138.2
1982	73.6	69.0	85.9	118.7	124.4	116.4	143.1
1983	77.8	73.5	81.0	104.4	110.3	101.7	130.5
1984	90.2	89.6	109.4	121.2	122.1	122.8	121.0
1985	92.0	89.6	101.1	109.9	112.9	111.5	116.3
1986	98.5	96.3	98.6	100.1	102.4	99.8	108.3
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.3	107.0	112.7	106.0	105.3	107.8	100.5
1989	113.2	110.8	112.3	99.2	101.4	102.3	99.5
1990	108.4	104.4	102.6	94.7	98.3	98.8	97.8
1991	103.3	99.8	92.6	89.7	93.0	90.1	99.0
1992	101.2	100.0	91.1	90.0	91.1	87.2	99.5
1993	104.3	104.8	96.4	92.4	91.9	87.4	101.4
1994	118.3	120.6	113.5	95.9	94.1	91.3	100.0
<b>Average annual percent change:</b>							
1958-94	2.0	2.0	1.8	-2	-2	-5	.8
1990-94	2.2	3.7	2.6	.3	-1.1	-1.9	.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 109. Farm and garden machinery (SIC 352): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	73.8	74.6	118.4	158.1	156.0	182.5	140.1
1971	79.1	80.3	115.7	147.6	145.3	149.3	135.8
1972	89.4	92.2	140.7	157.4	152.6	183.0	127.8
1973	92.7	95.2	168.1	181.3	178.7	190.7	141.7
1974	94.6	96.5	189.4	200.3	192.4	209.7	150.2
1975	94.2	97.3	177.4	188.3	182.4	192.1	158.8
1976	96.7	97.6	173.8	179.8	178.1	185.5	159.9
1977	97.8	97.8	179.9	183.9	184.0	190.3	168.8
1978	96.4	96.4	168.2	174.4	174.4	181.5	156.5
1979	98.2	99.6	200.6	204.2	201.4	211.0	179.1
1980	91.3	90.5	189.7	185.9	187.5	188.8	184.7
1981	93.4	91.4	159.8	171.0	174.6	173.0	178.9
1982	90.6	88.5	123.0	135.7	136.9	129.4	162.3
1983	88.6	88.9	107.0	120.8	123.1	115.7	141.2
1984	98.5	98.2	118.1	119.9	120.3	119.3	123.1
1985	92.7	92.6	101.2	106.1	109.2	106.7	115.1
1986	93.3	93.8	90.1	96.6	96.0	93.9	100.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.3	107.3	117.2	110.2	109.2	114.7	97.7
1989	110.7	110.6	121.2	109.5	109.8	117.4	93.4
1990	116.8	115.9	130.7	112.2	112.8	122.8	92.1
1991	113.0	110.4	115.7	102.4	104.8	112.5	88.9
1992	114.1	111.1	110.8	97.1	99.7	105.5	87.5
1993	118.8	119.8	125.9	106.0	105.1	112.8	90.2
1994	126.7	130.0	145.8	115.1	112.2	123.0	90.8
<b>Average annual percent change:</b>							
1958-94	1.9	1.9	1.4	-5	-8	-4	-9
1990-94	2.1	2.9	2.8	.8	-1	.0	-8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 110. Farm machinery and equipment (SIC 3523): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972 .....	103.8	108.2	194.9	187.9	183.5	204.3	138.1
1973 .....	108.6	110.5	238.7	219.9	216.0	242.0	155.5
1974 .....	108.8	112.9	282.7	241.4	232.7	253.8	184.3
1975 .....	111.0	114.8	261.5	233.8	227.8	250.3	179.3
1976 .....	114.5	114.2	255.1	222.8	223.4	240.8	184.3
1977 .....	115.1	114.1	282.7	228.3	230.3	245.8	185.9
1978 .....	111.7	111.3	236.3	211.5	212.3	227.8	177.8
1979 .....	112.6	113.7	279.8	248.3	248.0	285.9	202.0
1980 .....	104.7	102.8	240.7	229.9	234.0	244.4	211.1
1981 .....	108.6	105.5	231.1	212.8	219.2	224.4	207.3
1982 .....	103.4	99.2	187.1	161.8	168.4	180.8	184.8
1983 .....	99.2	98.1	138.2	139.3	143.8	136.5	188.7
1984 .....	112.7	111.3	147.1	130.5	132.2	131.7	133.5
1985 .....	101.6	100.3	118.0	116.2	117.7	114.8	124.0
1986 .....	95.7	95.5	98.7	101.0	100.2	97.8	105.5
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	112.8	114.1	125.9	111.8	110.3	118.1	98.7
1989 .....	124.0	124.1	141.2	113.9	113.7	125.0	93.9
1990 .....	131.8	130.3	151.8	115.0	116.4	130.8	91.0
1991 .....	125.3	120.8	131.5	104.9	108.9	121.5	96.5
1992 .....	119.1	115.8	118.0	99.1	102.1	111.8	95.3
1993 .....	123.7	125.3	135.1	109.2	107.8	118.8	98.6
1994 .....	134.2	137.1	156.4	116.5	114.0	128.7	98.2
<b>Average annual percent change:</b>							
1972-94 .....	1.2	1.2	-1.0	-2.1	-2.1	-2.1	-2.0
1990-94 .....	.5	1.3	.8	.3	-.5	-.4	-.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 111. Lawn and garden equipment (SIC 3524): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972 .....	69.1	71.7	59.3	85.8	82.7	78.6	98.8
1973 .....	70.0	73.1	63.3	90.4	86.8	85.8	89.7
1974 .....	76.6	78.6	79.5	103.8	101.1	99.4	108.9
1975 .....	66.0	68.8	53.9	81.6	78.3	73.4	94.8
1976 .....	68.6	72.3	54.0	78.7	74.7	71.8	94.5
1977 .....	72.9	73.8	57.8	79.3	78.3	78.5	94.5
1978 .....	77.7	77.0	67.6	87.0	87.8	86.9	91.4
1979 .....	83.3	84.2	83.9	100.7	99.6	98.5	103.4
1980 .....	77.8	79.1	64.4	82.8	81.5	74.9	103.4
1981 .....	72.3	73.3	53.2	73.6	72.6	67.6	89.7
1982 .....	77.8	81.3	58.1	74.9	71.5	64.9	93.1
1983 .....	79.2	81.1	61.2	77.3	75.5	72.8	94.5
1984 .....	79.3	81.0	75.4	95.1	93.1	93.8	91.3
1985 .....	82.4	85.3	78.4	92.7	89.8	90.1	87.9
1986 .....	93.2	93.3	80.5	86.4	86.3	86.4	88.2
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	97.5	97.9	103.9	106.8	106.2	107.5	101.7
1989 .....	93.2	92.2	91.1	97.7	96.8	101.0	91.7
1990 .....	94.8	95.8	99.1	104.5	103.5	105.5	98.7
1991 .....	95.8	97.2	91.6	95.6	94.2	93.0	98.3
1992 .....	106.7	106.8	99.8	91.8	93.4	92.5	98.7
1993 .....	114.7	113.9	111.7	97.4	98.1	100.0	91.7
1994 .....	116.3	120.7	129.6	111.4	107.3	110.8	98.7
<b>Average annual percent change:</b>							
1972-94 .....	2.4	2.4	3.8	1.2	1.2	1.8	.0
1990-94 .....	5.2	5.9	6.9	1.6	.9	1.2	.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 112. Construction machinery (SIC 3531): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	77.5	78.3	125.2	180.8	159.9	173.8	132.9
1971	80.2	79.5	119.0	148.3	149.5	161.0	138.7
1972	88.2	87.7	144.7	167.9	165.0	181.1	132.5
1973	87.9	90.5	168.6	191.8	186.3	208.0	146.0
1974	93.8	96.2	168.9	189.2	194.3	214.8	153.9
1975	87.7	88.3	163.6	188.5	185.2	200.4	154.8
1976	88.7	88.8	154.9	174.8	178.5	188.8	158.1
1977	92.7	90.4	173.3	185.9	191.8	205.1	184.0
1978	97.3	98.9	202.0	207.7	208.4	224.5	175.4
1979	91.5	87.1	188.0	205.5	215.9	231.8	184.0
1980	88.5	85.1	165.8	187.4	194.7	200.4	183.3
1981	88.5	83.8	150.3	173.8	179.8	188.3	186.7
1982	78.8	70.8	100.7	128.2	142.2	134.0	188.7
1983	78.4	71.8	81.0	103.3	113.2	108.7	126.3
1984	91.8	88.9	105.1	114.7	118.2	117.4	119.4
1985	92.2	88.4	100.9	109.4	112.8	110.2	117.8
1986	98.1	98.0	104.1	105.1	108.4	108.4	112.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	107.8	108.6	113.1	105.1	103.2	108.8	93.8
1989	110.2	109.0	114.8	104.0	105.1	110.8	96.8
1990	109.8	107.3	115.3	105.3	107.4	111.0	102.2
1991	101.0	98.8	95.1	94.2	98.3	96.9	96.9
1992	100.8	101.4	92.1	91.5	90.8	90.8	92.3
1993	107.0	108.2	104.3	97.5	98.4	98.5	93.2
1994	123.7	124.8	118.2	95.8	94.7	103.1	82.1
<b>Average annual percent change:</b>							
1958-94	1.7	1.9	1.2	-5	-8	-5	-7
1980-94	3.1	3.8	.8	-2.4	-3.1	-1.8	-6.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 113. Mining machinery and equipment (SIC 3532): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	96.0	94.6	148.1	154.3	156.8	174.5	129.8
1973	102.2	102.4	169.5	165.8	165.7	185.7	135.3
1974	109.9	110.0	204.8	186.3	186.1	213.8	144.7
1975	108.4	106.7	230.7	216.8	216.1	247.8	168.7
1976	90.8	91.9	215.8	237.7	234.7	264.9	188.9
1977	92.7	91.9	212.2	228.9	230.9	247.8	205.7
1978	87.4	84.9	193.6	221.8	228.0	241.7	207.4
1979	89.3	87.9	193.2	216.3	219.9	232.1	201.9
1980	92.5	90.6	198.6	214.7	219.2	228.3	205.7
1981	91.9	90.9	188.5	205.0	207.4	212.4	200.0
1982	84.9	80.4	145.4	171.2	180.8	174.5	180.8
1983	82.5	78.4	97.3	118.0	124.2	113.4	140.8
1984	90.2	87.3	108.4	120.2	124.2	120.8	129.8
1985	93.7	88.8	106.2	113.4	118.3	113.4	128.0
1986	95.1	92.0	99.4	104.6	108.1	103.7	114.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.0	102.1	100.9	98.9	98.8	101.0	95.5
1989	107.0	106.7	107.4	100.4	100.6	103.0	97.0
1990	98.4	97.8	106.6	108.3	109.0	113.0	103.0
1991	90.0	87.5	89.6	99.5	102.4	100.0	108.0
1992	90.1	88.0	83.3	92.4	94.8	93.0	97.0
1993	109.5	107.9	98.8	90.2	91.8	90.0	94.0
1994	97.4	98.8	92.3	94.8	93.4	91.0	97.0
<b>Average annual percent change:</b>							
1972-94	.1	.2	-2.1	-2.2	-2.3	-2.9	-1.3
1980-94	-3	.3	-3.5	-3.3	-3.8	-5.3	-1.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 114. Oil and gas field machinery (SIC 3533): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	128.2	128.4	155.8	121.5	123.3	143.0	94.7
1971	134.2	132.2	149.4	111.3	113.0	128.5	83.2
1972	148.1	148.7	170.4	115.0	114.8	129.4	83.2
1973	156.9	161.2	201.1	128.2	124.8	141.8	100.7
1974	180.9	186.1	284.8	146.3	142.2	165.2	108.2
1975	160.0	163.9	280.4	175.2	171.1	202.9	126.1
1976	149.2	147.9	286.7	180.1	181.7	212.5	137.7
1977	148.8	149.8	285.7	192.0	191.0	221.5	146.9
1978	161.3	165.4	351.7	218.1	212.7	248.8	158.9
1979	155.2	156.4	363.9	234.4	232.6	272.4	175.4
1980	152.4	156.0	414.7	272.1	265.8	310.8	201.9
1981	153.2	160.3	536.1	351.8	336.3	390.3	248.1
1982	141.9	140.1	436.1	306.7	310.8	368.4	241.5
1983	131.1	125.2	235.2	179.4	187.9	168.9	171.5
1984	126.0	124.6	223.7	177.8	179.5	197.5	153.8
1985	115.2	114.4	207.8	180.4	181.7	198.4	188.4
1986	105.9	101.5	130.3	123.0	128.3	130.5	124.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	123.1	123.8	138.8	112.7	112.1	114.8	108.8
1989	116.1	115.4	125.9	108.4	109.1	108.5	109.9
1990	113.9	119.4	139.5	122.5	116.8	121.8	109.9
1991	110.9	116.3	146.1	131.7	125.5	134.7	112.8
1992	125.7	130.6	140.8	111.9	107.7	116.4	95.4
1993	122.1	130.2	135.6	111.1	104.1	116.0	87.4
1994	123.6	131.0	132.4	107.1	101.1	115.0	81.5
<b>Average annual percent change:</b>							
1987-94	-1	.1	-.2	-.1	-.3	-.4	-.2
1980-94	2.1	2.3	-1.3	-3.3	-3.5	-1.4	-7.2

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 115. Machine tools (SIC 3541, 3542): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	89.1	92.3	203.2	228.0	220.2	245.1	184.8
1971	85.5	85.6	147.7	172.7	172.5	182.9	156.9
1972	95.3	98.4	165.5	173.8	168.2	185.8	143.1
1973	104.9	111.0	212.1	202.3	191.1	218.1	151.8
1974	107.3	112.9	233.3	217.4	206.7	238.8	160.2
1975	101.5	102.9	200.6	197.7	195.0	217.8	163.1
1976	97.3	97.3	173.1	178.0	177.9	199.0	148.0
1977	99.1	101.1	184.9	186.8	182.9	198.5	160.2
1978	101.7	105.1	207.0	203.5	198.9	220.2	162.9
1979	100.6	104.0	219.5	218.2	211.1	239.5	170.4
1980	97.3	99.2	217.3	223.2	219.0	245.6	181.2
1981	95.1	98.6	208.6	219.4	215.9	237.8	185.1
1982	85.5	82.9	141.7	165.8	170.9	170.9	170.9
1983	78.4	75.4	96.5	123.0	128.0	128.7	130.1
1984	88.5	86.3	110.8	125.3	128.5	130.8	125.3
1985	91.1	89.7	119.3	131.0	133.0	135.2	129.6
1986	92.8	92.4	112.2	121.2	121.4	121.5	121.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.7	102.8	107.2	106.5	104.3	105.8	101.7
1989	102.4	105.6	111.9	109.3	106.0	109.3	100.4
1990	99.0	98.9	99.8	100.8	100.9	102.5	98.3
1991	93.0	92.4	85.2	91.7	92.3	91.2	94.0
1992	109.9	109.6	92.5	84.1	84.4	82.4	87.7
1993	112.9	114.7	94.6	83.8	82.5	79.9	86.8
1994	107.5	112.0	95.6	88.9	85.3	84.2	87.2
<b>Average annual percent change:</b>							
1958-94	1.2	1.4	-.5	-1.7	-1.8	-2.3	-1.0
1980-94	2.1	3.2	-1.1	-3.1	-4.1	-4.8	-3.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 116. Metal cutting machine tools (SIC 3541): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	85.3	88.5	199.0	233.3	224.8	251.4	189.0
1971	81.5	81.9	139.8	171.4	170.4	182.3	134.2
1972	90.4	94.1	155.9	172.4	165.8	183.4	141.8
1973	101.4	107.5	203.1	200.4	189.0	218.4	149.0
1974	105.5	112.7	230.7	218.7	204.8	241.2	158.4
1975	100.3	103.0	204.2	203.8	198.2	223.6	163.3
1976	95.2	98.2	178.3	185.2	183.3	208.1	152.1
1977	98.4	102.2	191.8	194.8	187.5	204.8	164.8
1978	102.0	107.5	218.0	213.7	202.8	231.7	163.7
1979	100.9	106.9	232.8	230.8	217.8	251.0	173.4
1980	98.5	103.2	237.0	240.7	229.8	262.6	185.4
1981	95.7	100.8	236.0	244.1	234.2	263.1	195.7
1982	85.8	84.1	154.8	180.2	183.8	188.2	180.8
1983	75.8	73.9	100.3	132.8	135.7	134.8	137.1
1984	87.2	85.8	114.8	131.4	133.6	135.8	131.1
1985	89.9	80.4	120.5	134.1	134.9	138.9	132.7
1986	92.0	93.1	113.3	123.2	121.7	120.9	123.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	94.8	96.3	100.0	105.5	103.9	104.8	102.3
1989	99.9	103.2	109.0	109.1	105.8	109.0	100.0
1990	99.2	98.6	97.8	98.8	99.1	101.4	95.3
1991	94.8	94.5	85.3	89.9	90.2	89.7	91.2
1992	113.0	112.9	93.3	82.6	82.6	81.0	85.4
1993	111.4	112.9	89.9	80.7	79.6	78.8	84.8
1994	109.2	113.6	92.7	84.9	81.6	79.7	84.8
<b>Average annual percent change:</b>							
1958-94	1.5	1.6	-4	-1.9	-2.0	-2.5	-1.0
1990-94	2.4	3.6	-1.3	-3.7	-4.7	-5.8	-2.9

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 117. Metal forming machine tools (SIC 3542): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	97.4	101.2	211.7	217.4	209.3	231.0	172.4
1971	94.6	94.5	167.1	176.8	184.0	184.6	
1972	106.3	107.9	188.2	177.0	174.4	190.7	147.0
1973	112.5	119.1	232.9	207.0	195.6	217.1	158.8
1974	110.3	113.8	238.6	216.2	210.0	233.1	170.5
1975	103.1	102.0	191.8	186.1	188.1	203.5	162.7
1976	101.0	99.8	165.5	183.8	165.8	182.8	137.3
1977	99.8	98.7	169.4	169.7	171.6	185.0	149.2
1978	99.8	99.6	181.8	182.1	182.5	195.3	160.8
1979	98.5	96.5	188.8	191.7	195.6	214.8	162.7
1980	92.7	88.6	172.7	186.2	194.9	209.0	170.7
1981	89.0	84.5	147.1	185.2	174.0	183.9	158.9
1982	84.1	79.6	112.5	133.7	141.2	139.1	145.1
1983	85.6	79.1	87.8	102.5	110.9	110.3	111.9
1984	90.7	87.6	102.3	112.7	116.7	120.7	108.9
1985	93.1	90.8	116.4	125.0	128.2	132.1	121.6
1986	93.7	91.2	109.7	117.0	120.2	122.9	115.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	113.1	117.3	123.4	109.1	105.2	108.3	100.0
1989	107.9	110.7	118.4	109.8	107.0	110.2	101.8
1990	97.7	98.6	104.3	106.8	105.8	105.6	108.3
1991	88.4	87.1	85.1	98.3	97.7	95.4	101.8
1992	102.5	101.8	90.8	88.3	89.0	86.1	93.8
1993	115.0	117.7	106.1	92.2	90.1	88.9	92.2
1994	103.0	107.6	102.6	99.6	95.3	98.3	93.8
<b>Average annual percent change:</b>							
1958-94	.6	.8	-.7	-1.3	-1.5	-1.7	-1.0
1990-94	1.3	2.2	-.4	-1.7	-2.6	-2.3	-3.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 118. Machine tool accessories (SIC 3545): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	82.8	81.3	84.7	102.2	104.2	108.0	100.0
1971	93.2	89.8	77.8	83.4	86.6	85.7	88.8
1972	100.3	101.2	91.2	80.9	80.1	80.5	80.5
1973	105.9	109.8	116.2	108.7	105.8	108.4	87.3
1974	103.9	106.2	122.1	117.5	114.9	119.1	106.2
1975	100.5	98.5	102.1	101.8	105.5	108.9	103.3
1976	98.3	97.4	101.8	103.4	104.4	104.7	103.8
1977	99.8	100.3	112.3	112.7	111.9	112.8	108.9
1978	103.2	105.4	127.0	123.1	120.5	121.5	118.1
1979	100.6	102.4	133.9	133.1	130.7	133.3	124.7
1980	98.8	98.8	133.8	135.2	136.3	136.7	131.9
1981	101.6	100.3	132.0	129.9	131.5	131.3	131.9
1982	98.7	83.9	95.0	107.1	113.2	107.8	128.8
1983	92.8	80.7	77.4	93.8	96.0	92.1	105.2
1984	94.8	95.9	100.3	106.0	104.8	103.5	107.2
1985	92.3	92.7	98.5	106.7	108.3	105.4	108.5
1986	95.0	93.5	95.9	101.0	102.5	100.5	107.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.2	99.4	107.5	109.4	108.1	108.7	108.5
1989	102.5	103.6	116.0	113.1	111.9	112.5	110.5
1990	104.1	103.9	111.9	107.5	107.7	107.3	108.5
1991	104.6	103.8	103.2	98.7	99.4	98.4	102.0
1992	98.8	98.1	91.5	94.8	93.3	92.9	94.1
1993	101.5	103.2	95.9	94.4	92.9	91.0	97.4
1994	112.6	116.8	110.8	98.4	95.0	93.8	98.0
<b>Average annual percent change:</b>							
1983-94	1.1	1.2	1.4	.3	.2	.1	.8
1990-94	2.0	2.9	-2	-2.2	-3.1	-3.3	-2.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 119. Pumps and compressors (SIC 3561, 3563, 3594): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	73.6	75.2	83.8	113.7	111.2	123.8	95.4
1971	74.8	75.5	77.7	104.0	103.0	111.9	91.5
1972	78.8	80.3	85.9	109.0	107.0	119.9	90.7
1973	84.8	88.3	99.2	117.0	114.9	130.9	94.8
1974	84.3	84.7	106.8	126.8	126.1	146.3	100.4
1975	79.9	79.8	99.3	124.3	124.5	138.5	108.6
1976	85.3	85.9	105.0	123.1	122.3	135.2	105.7
1977	86.1	86.7	115.0	130.5	129.7	144.2	111.2
1978	80.9	80.8	122.4	136.2	138.3	152.5	115.7
1979	89.7	89.6	130.9	145.8	146.1	184.5	122.8
1980	87.2	87.0	128.5	147.4	147.7	183.5	127.7
1981	90.2	89.5	128.0	142.0	143.0	154.3	128.5
1982	83.8	82.0	112.2	134.2	136.8	138.1	135.0
1983	86.7	83.8	92.2	106.3	110.0	109.0	111.1
1984	91.4	90.2	105.0	114.9	118.4	120.2	111.8
1985	92.1	90.8	102.3	111.1	112.7	115.5	108.9
1986	93.6	93.0	98.6	103.2	103.8	102.3	105.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.0	106.1	112.4	107.1	106.0	108.5	102.8
1989	102.6	103.1	106.7	104.0	103.5	104.8	102.1
1990	104.9	104.9	108.8	103.7	103.8	105.4	101.8
1991	105.5	105.9	111.7	105.8	105.4	107.1	103.4
1992	103.7	104.8	103.2	99.8	98.5	103.4	92.4
1993	107.8	109.1	106.8	99.0	97.8	102.7	91.7
1994	112.6	114.7	113.6	100.9	99.1	110.5	84.7
<b>Average annual percent change:</b>							
1988-94	2.0	2.0	2.6	.5	.5	.5	.5
1990-94	1.8	2.3	1.1	-.7	-1.2	1.2	-4.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 120. Pumps and pumping equipment (SIC 3561, 3594): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972 .....	81.1	82.6	82.5	114.1	112.0	124.9	84.9
1973 .....	84.0	88.8	104.7	124.8	120.8	135.5	100.8
1974 .....	83.5	83.9	104.9	125.6	125.0	143.6	100.0
1975 .....	80.7	80.5	103.8	128.7	129.0	130.8	114.7
1976 .....	83.9	84.7	107.4	128.1	128.8	137.3	112.8
1977 .....	90.5	91.1	115.9	128.0	127.2	139.9	110.0
1978 .....	91.4	90.8	122.6	134.2	135.1	149.7	115.7
1979 .....	91.4	90.1	129.8	141.7	143.8	160.4	121.2
1980 .....	88.3	87.5	130.9	148.2	148.8	163.4	130.8
1981 .....	92.5	91.5	132.9	143.8	145.3	154.9	132.8
1982 .....	84.7	82.5	114.0	134.6	136.1	137.6	136.8
1983 .....	87.1	84.1	92.4	108.1	109.8	108.0	112.1
1984 .....	92.0	90.5	105.2	114.3	118.2	118.7	112.8
1985 .....	91.9	90.9	102.3	111.3	112.8	114.2	110.3
1986 .....	92.7	92.2	98.2	105.9	108.5	104.4	109.3
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	105.7	108.3	112.9	108.9	106.2	107.0	105.2
1989 .....	101.3	101.1	108.8	105.2	105.4	104.5	108.8
1990 .....	103.4	102.3	107.2	103.8	104.8	104.5	105.2
1991 .....	102.5	101.8	106.3	103.7	104.4	102.8	108.8
1992 .....	98.8	99.1	97.7	99.2	98.8	101.0	95.3
1993 .....	105.2	105.9	101.1	98.1	95.4	97.6	92.5
1994 .....	109.3	111.3	104.8	95.9	94.2	101.4	94.5
<b>Average annual percent change:</b>							
1972-94 .....	1.4	1.4	.8	-.8	-.8	-.9	-.5
1980-94 .....	1.4	2.1	-.6	-2.0	-2.6	-3.0	-6.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 121. Ball and roller bearings (SIC 3562): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	88.3	81.8	119.4	135.2	146.0	145.8	148.9
1971 .....	92.2	86.8	109.7	119.0	126.4	124.3	133.3
1972 .....	102.4	101.8	130.0	126.9	128.0	128.8	126.2
1973 .....	108.0	109.3	151.9	140.8	139.0	140.8	133.3
1974 .....	109.9	107.3	155.3	141.3	144.8	147.7	135.5
1975 .....	102.8	98.2	128.5	125.0	130.9	130.8	132.4
1976 .....	105.0	102.0	130.5	124.3	128.0	127.8	129.3
1977 .....	105.2	102.5	135.7	130.0	133.4	132.4	138.5
1978 .....	110.7	108.5	145.5	131.4	136.8	137.3	135.4
1979 .....	110.2	108.1	152.5	138.3	141.1	143.2	134.4
1980 .....	98.2	95.5	133.8	138.3	140.1	142.8	132.3
1981 .....	97.1	94.3	131.0	135.0	139.0	139.9	136.5
1982 .....	85.8	80.2	93.6	109.1	118.7	112.8	130.2
1983 .....	87.3	85.1	88.6	101.5	104.1	100.8	115.8
1984 .....	95.4	98.0	111.5	118.9	116.2	113.9	124.0
1985 .....	91.8	90.8	101.4	110.7	111.9	109.1	120.8
1986 .....	94.1	93.2	97.3	103.4	104.4	101.3	114.8
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	102.9	104.5	106.7	103.8	102.2	103.5	97.9
1989 .....	99.0	99.4	103.5	104.8	104.1	105.7	99.0
1990 .....	93.1	92.5	95.9	102.9	103.8	104.7	100.0
1991 .....	89.6	87.1	85.8	95.7	98.5	99.7	94.8
1992 .....	97.8	95.8	90.0	92.1	94.2	97.2	94.4
1993 .....	103.8	104.1	94.0	90.5	90.3	93.4	90.2
1994 .....	107.2	111.2	99.9	93.2	89.8	92.7	80.2
<b>Average annual percent change:</b>							
1958-94 .....	2.0	2.3	1.8	-.2	-.5	-.4	-.5
1980-94 .....	3.8	4.7	1.0	-2.4	-3.5	-3.0	-5.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 122. Air and gas compressors (SIC 3583): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972 .....	74.9	78.6	73.7	98.4	96.3	108.8	82.6
1973 .....	87.5	86.2	88.9	101.5	103.1	120.8	83.3
1974 .....	85.5	88.3	110.8	129.4	128.2	153.0	100.9
1975 .....	78.7	79.2	90.9	115.5	114.7	136.3	91.2
1976 .....	88.8	89.0	100.3	113.0	112.7	131.4	82.1
1977 .....	83.1	83.9	112.9	136.8	134.5	154.0	113.2
1978 .....	88.4	87.8	121.4	140.5	136.2	159.7	115.0
1979 .....	88.1	87.9	132.7	154.1	150.9	174.1	125.8
1980 .....	94.8	88.5	123.9	146.1	143.3	163.8	121.1
1981 .....	85.5	86.7	119.1	139.2	137.4	153.0	120.2
1982 .....	81.4	81.4	108.9	133.7	133.7	138.5	127.2
1983 .....	85.9	83.4	91.9	107.0	110.2	111.3	108.8
1984 .....	90.1	89.7	104.8	116.3	118.8	123.3	108.7
1985 .....	92.2	90.9	102.4	111.1	112.7	118.4	108.1
1986 .....	98.0	95.8	93.7	97.6	98.0	97.5	98.2
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	103.7	105.7	111.4	107.5	105.5	112.1	98.2
1989 .....	105.3	107.4	108.9	101.6	99.6	104.8	93.9
1990 .....	107.8	109.9	111.7	103.7	101.7	107.3	95.8
1991 .....	110.2	112.9	121.4	110.2	107.6	116.9	97.4
1992 .....	112.7	115.1	113.2	100.4	98.3	108.9	98.8
1993 .....	111.4	113.8	117.2	105.2	102.9	114.5	90.4
1994 .....	116.5	118.8	129.7	111.4	109.2	131.5	85.1
Average annual percent change:							
1972-94 .....	2.0	2.0	2.8	.6	.6	.9	.1
1990-94 .....	2.0	2.0	3.8	1.8	1.8	5.2	-2.9

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 123. Refrigeration and heating equipment (SIC 3585): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970 .....	85.7	82.5	68.3	77.4	80.4	78.5	85.5
1971 .....	91.5	88.1	68.0	74.3	77.2	75.5	82.3
1972 .....	101.0	100.4	90.1	89.2	89.7	88.8	92.2
1973 .....	100.3	99.0	101.7	101.4	102.7	101.1	108.7
1974 .....	103.4	99.8	95.0	91.9	95.2	92.7	101.8
1975 .....	85.3	81.0	81.3	71.9	75.7	70.4	80.4
1976 .....	89.4	87.8	77.2	86.3	87.9	84.8	86.7
1977 .....	98.3	95.0	91.2	92.7	96.0	92.1	106.4
1978 .....	98.3	97.2	100.4	102.1	103.3	100.0	112.1
1979 .....	98.8	98.1	100.9	102.1	105.0	102.4	111.9
1980 .....	90.7	87.2	83.2	91.7	95.4	89.8	111.3
1981 .....	96.0	92.5	89.5	93.3	96.8	93.2	108.8
1982 .....	95.3	90.9	78.7	82.6	86.6	81.1	101.8
1983 .....	96.0	93.7	82.5	86.0	88.1	83.4	101.2
1984 .....	100.1	99.7	97.1	97.0	97.4	95.1	103.9
1985 .....	98.1	98.1	94.4	98.3	98.3	95.1	107.2
1986 .....	95.8	94.3	92.2	98.3	97.8	95.8	103.6
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	104.0	104.3	108.5	104.3	104.1	104.8	102.1
1989 .....	109.0	107.9	114.3	104.9	105.9	107.4	101.8
1990 .....	108.3	102.5	99.5	93.7	97.1	98.3	99.4
1991 .....	104.8	102.9	94.8	90.5	92.1	90.2	97.6
1992 .....	107.6	107.0	101.9	94.7	95.2	95.0	95.8
1993 .....	111.8	113.8	109.8	98.2	98.5	98.8	98.1
1994 .....	115.8	120.6	125.1	108.0	103.7	105.1	99.7
Average annual percent change:							
1987-94 .....	1.7	1.9	3.6	1.9	1.7	1.9	1.2
1990-94 .....	2.2	4.1	5.9	3.6	1.7	2.2	.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 124. Carburetors, pistons, rings, and valves (SIC 3592): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	97.7	93.9	115.5	118.2	123.0	124.8	116.0
1973	102.9	98.8	148.5	145.3	148.8	153.1	138.5
1974	98.4	93.3	122.5	138.8	147.0	149.1	138.8
1975	90.8	73.5	100.1	123.8	136.2	136.5	136.5
1976	87.8	83.7	119.8	136.7	143.2	144.0	140.9
1977	95.4	92.0	121.7	142.5	148.3	150.2	140.9
1978	81.0	78.8	117.7	145.3	153.3	154.9	147.8
1979	81.9	78.2	130.4	159.2	168.7	169.9	154.7
1980	79.8	73.5	110.0	138.2	149.8	148.0	157.0
1981	80.8	74.6	113.1	140.0	151.8	152.8	147.8
1982	79.7	73.3	105.3	132.1	143.7	138.7	153.7
1983	87.1	83.3	114.3	131.2	137.2	134.1	150.1
1984	95.1	92.0	141.6	149.0	153.9	153.7	154.5
1985	98.8	94.2	137.0	138.8	145.5	143.8	152.4
1986	95.7	93.9	124.5	130.1	132.8	128.8	147.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	109.9	111.7	105.5	98.0	94.5	92.8	101.7
1989	119.4	120.0	95.8	80.2	79.9	77.5	89.8
1990	114.1	112.6	85.2	74.8	75.8	75.9	74.8
1991	115.1	112.5	80.3	69.8	71.4	71.9	69.5
1992	126.4	124.9	94.3	65.7	67.5	67.5	67.8
1993	136.5	136.9	92.4	67.7	68.8	68.7	68.1
1994	139.8	144.6	104.2	74.8	72.1	73.5	68.1
<b>Average annual percent change:</b>							
1972-94	1.8	2.0	.5	-2.1	-2.4	-2.4	-2.5
1980-94	5.2	6.5	5.2	.0	-1.2	-1.8	-3.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 125. Transformers, except electronic (SIC 3612): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	91.3	89.9	104.2	114.1	115.9	114.8	118.9
1971	96.2	92.6	104.8	108.9	113.2	112.8	114.3
1972	100.0	97.0	111.9	112.0	115.4	114.2	118.9
1973	100.2	98.0	125.7	125.5	128.2	128.3	128.1
1974	97.8	95.0	125.4	128.2	132.0	130.7	136.5
1975	93.0	88.3	93.5	100.8	105.9	98.5	128.4
1976	91.9	89.1	92.4	100.8	103.8	98.8	123.8
1977	102.1	100.0	107.3	105.1	107.3	102.2	122.0
1978	105.0	103.1	113.8	108.4	110.4	108.3	122.0
1979	109.8	107.6	119.9	109.2	111.4	108.4	119.7
1980	111.5	108.6	117.1	105.0	107.8	102.2	123.8
1981	106.9	104.7	114.0	106.7	108.9	104.4	121.2
1982	98.4	91.9	92.4	95.9	100.6	97.0	110.8
1983	95.0	92.8	89.8	94.6	98.8	91.6	111.4
1984	95.4	95.6	102.1	107.0	106.8	104.7	112.9
1985	97.0	97.4	102.3	105.4	105.0	103.0	110.8
1986	99.3	100.8	101.4	102.2	100.6	101.1	99.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.8	103.6	106.6	105.7	104.8	103.0	109.8
1989	104.3	104.8	107.3	102.9	102.4	99.5	110.8
1990	107.3	107.9	105.5	98.4	97.8	94.0	108.3
1991	110.7	110.1	99.7	90.1	90.8	86.6	101.5
1992	126.5	124.0	103.2	81.5	83.2	79.8	93.2
1993	121.7	121.8	100.2	82.3	82.4	79.8	89.4
1994	141.2	142.0	117.2	83.0	82.8	82.6	82.6
<b>Average annual percent change:</b>							
1983-94	2.4	2.5	2.5	.1	.0	.2	-.8
1980-94	7.1	7.1	2.7	-4.2	-4.1	-3.2	-6.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 126. Switchgear and switchboard apparatus (SIC 3613): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	74.3	76.0	100.0	134.8	131.6	140.1	114.8
1971	79.2	80.7	103.4	130.5	128.1	135.7	112.7
1972	84.4	85.1	115.0	138.2	135.1	144.8	115.8
1973	88.2	88.7	130.3	147.7	145.2	157.1	121.5
1974	83.8	83.9	120.0	143.3	143.0	155.2	117.9
1975	80.3	77.4	97.9	121.9	126.4	129.8	119.1
1976	81.0	78.7	100.3	123.8	127.5	133.9	114.8
1977	83.8	82.9	118.5	138.0	140.5	152.0	117.4
1978	86.3	85.5	126.5	146.5	147.9	159.3	124.8
1979	87.5	87.3	131.2	149.0	150.4	158.9	131.1
1980	87.7	87.7	124.8	142.2	142.2	147.0	132.9
1981	85.4	85.1	118.8	139.1	139.8	145.0	128.7
1982	87.4	85.2	110.8	126.8	129.9	130.9	128.0
1983	90.2	88.8	108.8	120.4	122.8	124.5	119.1
1984	92.2	91.9	113.8	123.2	123.8	124.5	122.0
1985	95.1	94.8	108.1	113.7	114.3	116.5	110.1
1986	95.9	95.5	104.5	108.9	109.4	110.8	107.2
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	109.1	112.3	103.9	95.3	92.5	90.8	97.3
1989	108.5	108.4	102.5	98.3	94.8	92.5	100.0
1990	108.5	107.8	98.5	92.5	91.8	88.2	100.0
1991	103.9	105.9	90.2	86.8	85.2	80.2	98.0
1992	114.6	118.8	94.7	82.8	79.7	74.8	91.9
1993	123.0	128.8	97.9	79.8	77.4	72.9	88.5
1994	124.5	128.3	101.2	81.3	78.9	74.3	80.5
Average annual percent change:							
1983-94	2.3	2.3	1.4	-.9	-.9	-1.3	-1
1990-94	4.0	4.5	.7	-3.2	-3.7	-4.2	-2.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 127. Motors and generators (SIC 3621): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	73.5	74.3	103.4	140.8	139.2	138.8	141.2
1971	77.3	78.9	99.1	128.1	125.8	124.2	130.4
1972	84.9	87.0	105.5	124.3	121.2	122.5	116.8
1973	89.0	90.3	121.7	136.7	134.8	136.7	119.3
1974	90.4	90.5	121.8	134.5	134.4	137.8	124.1
1975	82.7	82.6	90.8	108.8	108.9	107.2	118.1
1976	87.2	88.8	105.5	121.0	121.5	125.2	110.2
1977	90.9	91.2	118.8	130.4	130.0	131.4	125.3
1978	89.8	89.7	127.7	142.2	142.4	145.1	132.9
1979	89.7	90.4	129.7	144.6	143.5	144.8	140.2
1980	87.9	88.2	111.4	126.7	126.3	123.2	135.2
1981	91.6	91.3	114.4	124.9	125.4	124.4	127.8
1982	92.6	89.8	101.2	109.3	112.7	108.0	127.8
1983	90.5	88.5	95.5	105.6	107.9	106.4	112.1
1984	93.3	93.8	105.8	113.4	113.0	112.1	115.3
1985	94.9	94.3	98.2	103.5	104.2	102.4	109.3
1986	98.8	98.4	97.8	101.1	101.5	98.3	111.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	102.8	104.5	107.2	104.3	102.7	104.8	96.1
1989	103.8	105.2	106.8	103.0	101.4	104.2	92.2
1990	100.9	101.3	96.8	95.9	95.5	97.2	90.2
1991	104.4	105.8	95.9	91.9	90.8	91.2	88.8
1992	111.5	113.4	99.8	89.5	88.0	88.8	85.4
1993	127.0	129.9	111.9	88.1	86.2	87.0	83.4
1994	123.2	128.8	114.3	92.8	88.9	90.4	83.9
Average annual percent change:							
1954-94	2.5	2.6	1.3	-1.2	-1.3	-1.2	-1.7
1990-94	5.1	6.1	4.2	-.8	-1.8	-1.8	-1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 128. Major household appliances (SIC 3631, 3632, 3633, 3639): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	52.9	52.9	71.4	135.0	134.9	132.4	146.8
1971	60.5	60.4	67.5	111.7	111.8	109.3	123.2
1972	65.9	65.8	77.9	118.2	118.4	117.2	122.5
1973	67.8	67.2	85.5	126.5	127.2	126.4	130.0
1974	68.3	66.1	77.2	113.1	116.8	114.2	127.3
1975	70.9	68.1	70.7	98.7	103.8	100.3	120.8
1976	72.5	70.7	78.2	107.8	110.8	108.7	128.1
1977	75.2	73.7	88.3	117.5	119.8	118.1	129.1
1978	75.4	72.2	91.9	121.9	127.2	126.0	132.0
1979	81.7	79.4	94.2	115.4	118.7	117.0	126.8
1980	79.3	76.3	85.8	107.9	112.2	110.2	121.8
1981	80.4	77.4	85.4	106.1	110.3	108.3	115.7
1982	81.8	77.3	73.9	90.3	95.8	91.7	113.8
1983	87.9	87.3	86.2	98.1	98.8	97.2	108.1
1984	91.8	91.5	98.4	105.1	105.4	108.0	102.7
1985	93.9	92.5	91.8	97.7	99.2	98.2	104.1
1986	99.0	98.1	97.9	98.9	99.8	99.8	100.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.6	105.1	104.8	98.4	99.8	100.5	98.8
1989	99.7	101.6	98.1	98.4	98.5	98.7	96.9
1990	101.6	101.9	90.9	89.4	89.2	89.8	86.3
1991	103.4	104.4	87.1	84.2	83.4	84.0	80.8
1992	107.0	108.5	98.1	89.8	88.5	88.8	82.9
1993	120.7	121.6	108.8	90.2	89.5	90.7	84.2
1994	131.3	132.0	125.8	95.7	95.1	95.7	92.5
<b>Average annual percent change:</b>							
1958-94	4.2	4.2	3.4	.7	.7	.5	-1.5
1990-94	6.6	6.7	6.4	1.7	1.6	1.6	1.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 129. Household cooking equipment (SIC 3631): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	50.8	51.0	50.5	99.4	99.1	99.9	96.1
1971	55.4	56.0	54.8	98.9	97.8	98.2	96.1
1972	58.6	59.7	63.5	108.4	106.4	109.0	98.1
1973	61.8	62.9	72.4	117.1	115.0	117.8	108.0
1974	64.4	62.0	62.9	97.6	101.4	99.9	106.0
1975	71.7	68.4	58.3	81.3	85.2	82.9	92.1
1976	73.7	72.5	76.5	103.8	105.4	102.3	118.1
1977	72.7	71.4	82.8	113.9	116.0	113.1	126.1
1978	73.0	70.3	89.8	123.0	127.8	127.9	128.3
1979	79.1	78.6	104.5	132.0	132.9	127.9	150.0
1980	78.0	77.3	99.0	130.3	128.2	124.9	140.2
1981	77.3	78.7	98.2	127.0	124.7	123.8	128.3
1982	82.3	78.4	84.9	103.1	106.2	100.8	134.0
1983	86.2	87.2	105.5	122.3	121.0	116.8	136.2
1984	92.0	93.0	117.8	127.9	126.5	127.3	124.0
1985	90.3	89.4	98.7	108.4	110.5	108.5	114.1
1986	104.8	103.0	104.4	99.8	101.4	100.0	106.0
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	118.1	114.0	113.0	97.3	99.1	101.8	90.0
1989	98.8	97.0	89.9	92.9	92.7	94.7	86.0
1990	99.5	100.0	85.9	86.3	85.8	88.8	76.0
1991	104.9	102.1	83.4	79.8	81.7	85.2	70.0
1992	100.9	102.0	87.6	86.8	85.8	88.8	76.0
1993	103.7	104.5	86.7	85.8	84.9	88.2	74.0
1994	127.5	129.9	110.3	86.5	84.9	88.8	72.0
<b>Average annual percent change:</b>							
1958-94	3.8	3.6	3.6	.1	.1	.2	-4
1990-94	6.4	6.8	6.4	.1	-3	.0	-1.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 130. Household refrigerators and freezers (SIC 3632): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	52.1	53.1	100.0	193.8	190.0	188.1	200.8
1971	63.3	63.6	80.4	127.1	126.4	125.0	134.0
1972	69.2	70.1	93.0	134.4	132.7	132.4	134.0
1973	70.1	70.9	98.5	137.7	136.2	134.2	146.1
1974	71.9	72.7	92.6	128.8	127.3	123.8	146.1
1975	71.2	69.7	93.2	130.9	133.6	127.9	163.3
1976	71.6	70.1	91.4	127.8	130.3	125.0	158.3
1977	77.3	77.1	107.2	138.7	138.1	136.1	146.1
1978	75.9	73.9	109.9	144.8	148.6	148.8	148.8
1979	86.8	84.5	95.0	109.4	112.4	114.1	104.9
1980	88.1	81.6	86.3	98.0	105.8	108.6	102.2
1981	90.6	82.9	87.4	98.5	105.4	108.0	102.2
1982	88.3	84.5	73.6	92.5	87.2	85.2	87.6
1983	97.8	97.0	79.3	81.3	81.8	81.0	88.4
1984	97.5	94.7	88.5	90.8	93.4	94.5	87.8
1985	104.1	101.2	87.7	84.3	86.7	85.2	86.0
1986	101.2	100.9	93.8	92.7	93.0	93.0	92.7
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.3	103.0	107.4	104.0	104.3	103.7	107.3
1989	105.2	110.1	109.3	103.9	98.2	98.8	112.2
1990	107.3	108.9	96.1	99.8	99.9	97.0	104.9
1991	111.8	116.6	98.2	95.0	92.5	90.1	95.1
1992	116.0	116.9	115.8	99.7	98.8	98.1	97.8
1993	116.8	115.4	121.7	104.2	105.4	104.2	112.2
1994	126.7	127.5	140.4	110.8	110.1	110.8	107.3
<b>Average annual percent change:</b>							
1958-94	4.5	4.5	3.4	-1.1	-1.1	-0	-1.7
1980-94	4.2	4.5	9.9	5.5	5.2	6.2	.6

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 131. Household laundry equipment (SIC 3633): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	57.2	55.7	73.6	126.6	132.1	126.2	185.3
1971	63.4	63.2	79.8	125.8	126.2	120.4	157.7
1972	67.0	65.4	92.4	137.8	141.2	137.5	181.8
1973	72.3	70.4	100.7	136.3	143.1	139.7	181.8
1974	69.3	63.7	86.1	124.3	135.3	130.5	161.6
1975	75.1	69.3	71.8	95.7	103.6	99.2	128.8
1976	77.9	73.8	78.2	100.4	105.9	101.2	130.8
1977	78.3	74.5	86.5	110.5	116.1	112.8	134.8
1978	80.8	78.1	89.3	110.8	117.3	114.3	134.8
1979	84.7	80.5	96.9	114.4	120.4	118.3	130.8
1980	80.0	74.8	85.9	107.4	114.9	111.2	134.8
1981	80.4	74.9	84.7	105.3	113.1	110.8	128.8
1982	82.0	74.4	73.5	89.6	98.8	95.1	119.2
1983	88.2	84.5	81.5	92.4	96.4	96.5	98.1
1984	92.8	90.7	90.7	97.8	100.0	100.0	100.0
1985	93.8	90.5	93.3	99.5	103.1	102.2	107.8
1986	97.4	97.0	101.1	103.8	104.2	104.3	103.8
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.1	102.5	101.2	95.4	98.8	98.3	98.2
1989	98.7	98.4	99.0	100.3	100.8	101.4	98.2
1990	104.0	105.1	99.4	95.5	94.8	96.5	94.8
1991	111.0	111.5	95.5	86.0	85.8	85.8	94.8
1992	115.9	120.3	102.3	88.3	85.0	85.8	90.8
1993	144.8	149.3	123.4	85.1	82.8	84.4	73.1
1994	150.5	149.9	145.4	96.8	97.0	91.5	126.9
<b>Average annual percent change:</b>							
1958-94	4.3	4.3	3.1	-1.2	-1.2	-0	-1.9
1980-94	9.7	9.3	10.0	.3	.6	-1.3	10.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 132. Household appliances, not elsewhere classified (SIC 3639): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employee		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	51.4	51.2	50.8	98.3	98.8	92.3	127.4
1971	56.0	56.2	51.0	91.1	92.5	85.8	134.1
1972	68.0	64.9	56.9	98.3	97.7	81.8	113.7
1973	63.7	61.1	68.8	108.0	112.5	110.7	120.3
1974	64.3	61.7	62.9	97.8	102.0	100.7	108.9
1975	68.0	64.0	53.2	90.5	93.1	78.8	103.3
1976	69.9	68.8	62.4	90.2	90.8	87.7	103.3
1977	73.5	72.8	71.4	97.2	98.1	97.7	98.9
1978	75.5	71.0	72.9	98.5	102.7	99.9	113.7
1979	76.1	73.0	78.1	103.9	108.3	107.0	113.7
1980	73.5	70.3	69.0	93.9	98.1	98.2	106.9
1981	73.7	71.4	68.8	93.4	98.4	94.8	103.3
1982	72.7	70.2	62.3	85.7	88.7	87.0	98.5
1983	80.6	80.8	79.3	98.4	98.1	99.2	93.1
1984	85.9	88.1	88.2	103.8	101.2	103.8	89.8
1985	86.3	87.6	87.6	101.5	100.0	100.9	99.5
1986	89.1	87.9	91.8	102.8	104.3	106.2	98.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.6	100.2	94.8	94.0	94.4	94.7	93.1
1989	98.3	98.8	91.8	95.3	93.1	93.9	99.7
1990	91.8	92.1	80.0	87.2	88.9	88.5	79.3
1991	80.5	81.4	69.2	86.0	85.0	87.0	75.9
1992	91.8	92.3	73.2	80.0	79.4	80.2	75.9
1993	117.8	120.8	93.8	79.8	77.5	78.8	72.4
1994	119.1	119.4	99.2	83.4	83.1	84.7	75.9
Average annual percent change:							
1954-94	3.9	4.0	3.7	-2	-3	.3	-2.0
1980-94	6.7	6.7	5.5	-1.1	-1.1	-1.1	-1.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 133. Electric lamp bulbs and tubes (SIC 3641): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employee		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	65.8	65.3	96.2	146.7	147.3	152.5	116.3
1971	64.6	63.7	95.2	147.4	148.5	154.3	121.7
1972	66.6	66.7	104.5	157.0	158.7	162.5	124.4
1973	61.3	61.4	104.6	170.7	170.3	177.0	129.7
1974	64.4	63.2	101.4	157.3	160.4	164.5	136.2
1975	64.0	63.1	86.3	134.9	136.7	139.4	121.7
1976	69.4	70.3	99.6	143.6	141.7	144.9	124.4
1977	71.5	72.0	104.8	146.5	145.5	148.8	127.1
1978	74.2	75.8	109.3	147.2	144.5	148.0	124.4
1979	76.1	76.8	112.8	148.1	148.8	151.4	118.9
1980	70.1	69.5	97.0	138.3	139.8	143.8	116.3
1981	72.4	72.6	91.1	125.8	125.4	128.1	110.8
1982	77.3	76.7	98.8	114.8	115.8	119.0	97.8
1983	85.4	86.5	94.0	110.1	106.2	108.7	92.7
1984	86.4	86.3	97.1	112.3	109.9	111.7	100.0
1985	94.2	94.3	102.6	108.0	108.8	110.0	102.4
1986	91.5	91.8	95.2	104.1	103.7	103.5	104.9
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	100.3	101.3	101.3	101.1	100.0	100.9	95.1
1989	92.7	92.9	88.1	95.1	94.9	95.2	92.7
1990	96.0	96.1	87.4	89.2	88.2	88.3	87.8
1991	101.8	104.4	94.1	82.5	80.5	79.7	85.4
1992	112.8	117.5	92.0	81.6	78.3	77.5	82.9
1993	100.9	108.6	95.2	85.4	79.4	74.9	104.9
1994	97.7	108.2	98.7	88.8	80.1	72.7	122.0
Average annual percent change:							
1954-94	2.0	2.3	1.7	-2	-6	-9	8
1980-94	-1	2.2	-2	-1	-2.4	-4.7	8.6

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 134. Lighting fixtures and equipment (SIC 3645, 3646, 3647, 3648): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	70.6	70.3	54.4	91.2	91.6	95.0	82.4
1971	75.4	73.8	66.7	88.4	90.3	94.9	77.8
1972	81.2	80.9	77.0	94.9	95.2	100.4	81.8
1973	84.1	83.1	83.7	99.5	100.7	107.5	82.4
1974	81.9	79.9	72.0	87.9	90.1	93.8	80.4
1975	80.5	77.9	59.7	74.2	78.7	78.1	73.0
1976	85.6	82.9	69.3	80.9	83.6	87.8	72.5
1977	90.5	88.0	78.0	85.2	88.7	91.1	82.4
1978	91.1	88.4	82.3	90.3	93.1	98.7	83.3
1979	88.2	84.0	83.1	98.4	98.9	101.8	91.2
1980	84.4	82.1	76.7	90.8	93.4	94.2	91.2
1981	80.5	79.1	74.1	92.1	93.7	94.0	93.1
1982	81.8	79.2	69.9	85.8	88.2	88.5	87.3
1983	85.1	83.8	78.8	90.0	91.4	94.2	94.4
1984	91.3	90.1	83.1	91.0	92.2	95.5	93.3
1985	98.7	94.3	86.7	89.8	91.9	94.2	95.9
1986	103.0	101.9	94.3	91.8	92.8	92.7	92.1
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	98.1	98.9	100.7	102.7	101.9	101.8	102.1
1989	97.3	97.3	100.8	103.3	103.3	103.2	103.7
1990	98.0	95.8	94.6	98.8	98.8	98.4	100.0
1991	94.3	94.3	88.6	91.9	91.9	90.9	94.7
1992	98.9	99.5	92.1	93.1	92.5	91.8	94.7
1993	103.7	108.5	98.9	95.3	92.8	93.0	92.1
1994	109.8	113.1	110.1	100.5	97.3	97.1	97.9
Average annual percent change:							
1983-94	1.9	2.1	3.1	1.1	1.0	.8	1.7
1990-94	3.4	4.2	3.9	.5	-4	-3	-3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 135. Household audio and video equipment (SIC 3651): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	16.0	16.0	46.5	290.7	290.6	289.5	291.8
1971	17.2	17.2	50.1	291.0	291.2	288.7	271.0
1972	19.9	19.7	55.3	278.4	280.1	295.5	226.8
1973	22.3	21.9	65.5	293.3	298.4	317.4	234.0
1974	22.2	21.1	59.8	260.7	283.7	291.3	257.3
1975	24.0	23.3	51.8	215.8	222.9	221.3	225.8
1976	27.2	26.6	61.6	226.6	231.8	227.4	242.2
1977	31.0	30.1	72.8	234.9	241.5	243.8	232.8
1978	34.8	33.5	83.3	239.4	248.4	243.3	262.8
1979	39.1	38.5	85.3	218.3	221.6	216.2	236.8
1980	43.0	42.9	90.2	209.6	210.3	201.8	236.8
1981	50.9	49.8	97.8	192.1	198.1	188.9	218.9
1982	58.5	54.8	85.9	152.2	158.7	149.9	177.9
1983	66.4	66.2	100.0	150.7	146.7	137.8	175.3
1984	84.7	84.7	130.3	153.9	153.8	152.0	158.7
1985	96.3	96.2	140.5	146.0	146.1	142.7	156.0
1986	106.9	107.9	157.1	148.9	145.8	142.7	153.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.2	106.4	106.4	100.2	100.0	100.5	99.0
1989	120.5	118.9	124.8	103.8	105.0	108.0	99.0
1990	124.1	124.7	125.7	101.3	100.8	100.2	101.9
1991	135.7	134.0	132.5	97.8	98.9	95.8	105.3
1992	151.8	151.7	146.6	98.6	98.8	93.2	103.4
1993	163.1	163.6	157.2	96.4	96.1	91.0	108.3
1994	175.7	177.4	177.9	101.3	100.3	95.8	108.7
Average annual percent change:							
1983-94	8.9	8.9	6.6	-2.1	-2.1	-2.3	-1.8
1990-94	9.1	9.2	9.1	.0	-1	-1.2	1.9

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 136. Motor vehicles and equipment (SIC 371): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	57.0	54.8	50.9	88.3	82.8	90.3	101.0
1971	66.2	64.8	63.9	96.5	96.5	97.9	100.6
1972	67.5	68.8	69.9	103.5	101.6	100.8	103.6
1973	68.7	70.9	80.4	117.0	113.4	112.7	115.5
1974	65.7	63.7	67.2	102.3	105.5	102.7	114.9
1975	70.2	67.4	62.1	88.4	92.1	90.0	99.0
1976	75.1	76.5	78.3	104.3	102.4	102.0	103.5
1977	79.8	83.2	91.1	114.2	109.5	109.0	110.3
1978	79.4	81.7	94.9	119.5	116.2	116.0	115.7
1979	77.7	76.6	87.6	112.7	114.4	113.5	117.3
1980	71.6	68.9	62.8	87.7	91.2	85.3	110.8
1981	73.4	71.8	65.5	89.2	91.2	87.1	105.2
1982	76.7	74.3	60.0	78.2	80.8	78.0	97.2
1983	86.8	88.5	77.1	88.8	87.1	84.4	96.1
1984	91.1	94.4	93.9	103.1	99.5	98.6	102.4
1985	95.3	98.4	100.4	105.3	102.0	101.7	103.0
1986	95.1	96.2	96.9	101.9	100.7	99.5	104.6
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	103.2	105.9	104.8	101.5	98.9	99.2	98.0
1989	103.3	106.1	105.2	101.8	99.1	98.8	101.0
1990	102.4	102.9	96.5	94.3	93.8	91.7	101.1
1991	96.7	96.6	88.0	91.0	91.1	89.4	97.1
1992	104.3	104.4	97.9	93.9	93.8	92.4	98.9
1993	105.4	109.5	105.7	100.3	98.6	95.4	100.9
1994	106.6	116.4	120.8	111.2	103.8	103.3	105.5
Average annual percent change:							
1958-94	3.0	3.3	4.4	1.4	1.1	1.2	.8
1990-94	1.5	3.1	5.8	4.2	2.6	3.0	1.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from company records; the American Automobile Manufacturers Association; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; the Bureau of Economic Analysis; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics and company records.

**Table 137. Aircraft (SIC 3721): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	66.5	65.1	52.5	78.9	80.8	91.2	72.0
1973	79.2	77.5	65.3	82.5	84.3	95.2	75.5
1974	80.7	79.2	68.3	84.7	86.3	97.0	77.6
1975	80.9	80.5	66.2	81.8	82.2	88.8	77.0
1976	79.1	78.5	61.9	78.3	78.9	83.1	75.5
1977	87.5	87.2	68.2	75.7	75.9	78.2	74.0
1978	92.8	92.8	75.1	80.9	80.9	84.2	78.3
1979	98.6	99.0	92.6	93.9	93.5	104.3	84.8
1980	97.9	97.7	95.7	97.8	98.0	100.2	89.0
1981	99.9	99.1	95.7	95.8	96.6	105.0	89.8
1982	97.6	96.3	86.5	88.6	89.8	90.9	88.8
1983	89.2	87.9	75.2	84.3	85.5	82.7	87.8
1984	84.7	83.8	72.0	85.0	85.9	80.8	90.2
1985	94.2	93.4	85.4	90.7	91.4	85.2	98.4
1986	93.5	93.4	86.8	95.0	95.1	92.1	97.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.8	105.7	109.3	103.3	103.4	101.9	104.6
1989	107.5	106.7	114.4	106.4	107.2	105.2	108.9
1990	112.9	112.6	120.4	106.8	106.9	103.1	109.9
1991	131.4	130.5	130.2	99.1	99.8	95.3	103.4
1992	141.7	140.9	131.3	92.6	93.2	86.6	98.5
1993	142.4	140.7	119.0	83.5	84.6	77.1	90.8
1994	131.7	130.0	98.9	75.1	76.1	87.9	82.7
Average annual percent change:							
1972-94	3.2	3.2	2.9	-2	-3	-1.3	.8
1990-94	3.9	3.7	-4.8	-8.4	-8.1	-8.9	-8.9

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics; the Bureau Economic

Analysis, U.S. Department of Commerce; the Federal Aviation Administration, U.S. Department of Transportation; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 138. Instruments to measure electricity (SIC 3825): Indexes of output per hour and related measures, 1972-94  
(1967=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1972	59.2	58.9	37.8	63.9	64.2	78.6	48.7
1973	63.7	63.2	44.5	69.9	70.5	88.5	51.8
1974	64.5	62.4	49.7	77.1	79.7	90.2	58.9
1975	67.2	63.6	45.4	67.8	71.5	85.9	58.2
1976	67.8	65.0	46.6	69.0	71.7	85.9	58.7
1977	71.5	69.1	53.9	75.4	78.0	92.0	63.2
1978	71.7	60.2	82.3	86.8	89.9	103.9	75.1
1979	70.8	69.5	69.0	97.5	99.3	110.1	67.8
1980	78.2	73.1	81.5	107.0	111.4	119.4	103.1
1981	78.1	75.0	83.4	106.8	111.3	114.4	108.0
1982	82.7	78.6	82.7	100.1	105.3	111.4	98.8
1983	86.4	82.2	86.5	100.2	105.3	112.7	97.3
1984	96.2	92.3	103.7	107.8	112.3	120.8	103.8
1985	95.4	91.6	99.3	104.0	108.3	109.9	106.8
1986	90.4	88.7	89.8	99.3	101.2	100.9	101.5
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	106.1	104.1	102.0	96.1	98.0	98.6	99.5
1989	105.2	102.6	97.7	92.8	95.2	93.2	97.3
1990	106.2	103.5	97.4	91.8	94.1	90.2	98.3
1991	106.3	110.3	92.7	85.6	84.0	80.0	88.4
1992	119.0	115.1	92.8	78.0	80.8	73.8	86.1
1993	122.4	118.3	90.1	73.8	76.2	69.5	83.3
1994	145.0	142.3	104.6	72.1	73.5	72.4	74.6
<b>Average annual percent change:</b>							
1972-94	4.2	4.1	4.7	.6	.6	-4	2.0
1990-94	8.1	8.3	1.8	-5.9	-6.0	-5.3	-6.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 139. Photographic equipment and supplies (SIC 386): Indexes of output per hour and related measures, 1970-94  
(1967=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
<b>Index:</b>							
1970	43.9	42.7	44.8	101.5	104.4	126.2	87.7
1971	47.6	45.4	47.4	99.7	104.4	122.8	90.2
1972	53.5	51.8	56.2	104.9	108.9	128.2	93.8
1973	58.9	56.5	65.5	111.2	115.8	139.5	97.5
1974	62.6	59.1	71.5	114.2	120.8	145.8	101.5
1975	60.9	56.9	64.1	105.3	112.6	129.5	99.5
1976	65.4	62.3	72.3	110.5	116.1	136.7	100.1
1977	66.8	63.9	77.2	115.5	120.8	141.7	104.7
1978	73.8	70.3	86.3	116.9	122.7	143.9	106.1
1979	79.0	76.3	95.0	120.3	124.8	143.9	109.9
1980	72.9	70.5	88.2	120.9	125.0	143.0	111.2
1981	73.1	70.9	90.4	123.8	127.5	144.2	114.5
1982	70.4	68.1	88.6	125.9	130.2	146.2	117.9
1983	80.5	78.7	93.4	118.0	118.6	129.1	110.5
1984	86.2	87.6	100.7	114.2	115.0	126.8	105.9
1985	86.1	85.7	97.7	113.5	113.9	121.8	107.9
1986	94.1	92.8	98.5	104.7	106.2	111.4	102.4
1987	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1988	105.6	105.6	107.1	101.5	101.5	101.5	101.5
1989	113.0	112.4	110.1	97.5	98.0	98.9	97.2
1990	107.8	106.1	98.0	90.9	92.4	92.5	92.3
1991	110.2	109.4	99.9	90.7	91.3	93.6	89.5
1992	116.4	116.7	102.2	87.8	87.6	89.3	86.2
1993	126.6	125.2	106.3	83.9	84.9	84.0	85.6
1994	131.9	131.8	103.6	82.4	82.5	82.9	82.1
<b>Average annual percent change:</b>							
1967-94	4.7	4.8	4.2	-.5	-.6	-1.4	.3
1990-94	5.2	5.6	2.6	-2.4	-2.8	-2.7	-2.9

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 140. Railroad transportation, revenue traffic (SIC 4011): Indexes of output per hour and related measures, 1970-82  
(1967=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1970 .....	36.2	41.7	88.3	244.2	211.7
1971 .....	38.6	41.8	86.8	225.0	207.8
1972 .....	42.1	46.4	91.0	218.1	196.0
1973 .....	46.5	50.3	99.8	214.0	198.1
1974 .....	45.5	49.3	97.8	214.8	198.2
1975 .....	43.3	48.3	84.9	195.9	183.4
1976 .....	46.9	49.7	91.4	194.9	183.9
1977 .....	49.1	52.1	96.4	196.2	185.2
1978 .....	51.8	54.4	98.6	191.2	181.4
1979 .....	54.3	55.3	101.1	186.3	182.7
1980 .....	54.6	54.8	97.3	178.3	177.4
1981 .....	55.1	58.4	95.1	172.5	168.6
1982 .....	58.3	57.1	83.8	143.8	146.7
1983 .....	72.0	70.7	89.2	123.9	126.2
1984 .....	78.0	78.8	97.3	124.7	127.0
1985 .....	81.5	78.5	93.7	115.0	119.3
1986 .....	89.2	83.7	92.9	104.1	111.0
1987 .....	100.0	100.0	100.0	100.0	100.0
1988 .....	108.4	109.8	105.0	96.9	95.6
1989 .....	114.6	113.0	106.6	93.0	94.3
1990 .....	118.5	119.5	107.8	91.0	90.2
1991 .....	127.8	124.7	107.0	83.7	85.8
1992 .....	139.6	134.2	111.4	79.8	83.0
Average annual percent change:					
1947-92 .....	5.2	4.4	.3	-4.7	-3.9
1990-92 .....	8.5	5.0	1.7	-6.4	-4.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission; the

Association of American Railroads; the Federal Railroad Administration, U.S. Department of Transportation; and the National Railroad Passenger Corporation. Employment and hours based on data from the Interstate Commerce Commission.

**Table 141. Bus carriers, Class 1 (Parts of SIC 411, 413, 414): Indexes of output per hour and related measures, 1970-89  
(1967=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1970 .....	118.2	119.0	190.6	161.3	160.2
1971 .....	115.3	114.0	179.0	155.2	157.0
1972 .....	117.5	111.5	171.6	148.0	153.9
1973 .....	116.8	113.5	164.4	140.7	144.8
1974 .....	121.4	118.2	178.3	146.9	150.9
1975 .....	106.9	103.4	160.8	150.4	155.5
1976 .....	103.3	100.3	155.0	150.0	154.5
1977 .....	110.1	105.8	154.0	139.9	145.9
1978 .....	106.6	100.2	146.2	137.2	145.9
1979 .....	108.3	104.1	156.0	144.0	149.9
1980 .....	111.1	99.4	153.8	138.4	154.7
1981 .....	99.9	91.0	141.7	141.8	155.7
1982 .....	108.8	99.2	144.7	133.0	145.8
1983 .....	104.9	96.1	126.9	121.0	129.4
1984 .....	100.1	94.8	120.8	120.7	127.4
1985 .....	96.1	93.1	112.6	117.2	121.0
1986 .....	95.6	95.0	100.1	104.7	105.4
1987 .....	100.0	100.0	100.0	100.0	100.0
1988 .....	107.9	109.2	102.0	94.5	93.4
1989 .....	104.0	106.0	106.0	101.3	100.0
Average annual percent change:					
1954-89 .....	.2	.1	-1.3	-1.5	-1.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Interstate Commerce Commission, the American Bus Association, and the Bureau of Labor Statistics.

**Table 142. Trucking, except local (SIC 4213)<sup>1</sup>: Indexes of output per employee and related measures, 1970-89  
(1967=100)**

Year	Output per employee	Output	Employees
<b>Index:</b>			
1970 .....	60.1	74.1	123.2
1971 .....	63.8	80.4	126.0
1972 .....	68.1	90.9	133.4
1973 .....	69.5	98.3	141.4
1974 .....	67.2	95.8	142.3
1975 .....	64.2	86.5	134.8
1976 .....	72.2	98.7	136.7
1977 .....	71.9	106.0	147.4
1978 .....	82.9	104.0	125.4
1979 .....	83.9	110.5	131.7
1980 .....	77.5	93.6	120.8
1981 .....	83.6	92.4	110.5
1982 .....	77.7	87.0	112.0
1983 .....	94.3	93.6	99.3
1984 .....	97.3	105.7	108.8
1985 .....	93.8	94.8	101.1
1986 .....	96.8	97.7	100.9
1987 .....	100.0	100.0	100.0
1988 .....	105.2	100.8	95.8
1989 .....	109.4	102.6	94.0
Average annual percent change:			
1954-89 .....	2.8	3.7	.8

<sup>1</sup> Class I and II common and contract carriers.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Based on data from the Interstate Commerce Commission; Trinc Transportation Consultants, a division of Dunn and Bradstreet, Inc.; and the American Trucking Associations.

**Table 143. Trucking, except local, general freight (SIC 4213 part)<sup>1</sup>: Indexes of output per employee and related measures, 1970-89  
(1967=100)**

Year	Output per employee	Output	Employees
<b>Index:</b>			
1970 .....	53.0	82.2	155.1
1971 .....	56.0	87.3	155.8
1972 .....	59.4	96.1	161.8
1973 .....	63.4	106.8	168.5
1974 .....	64.4	104.7	162.5
1975 .....	61.0	90.9	148.9
1976 .....	66.3	103.5	156.0
1977 .....	69.0	112.7	163.3
1978 .....	80.5	111.8	138.8
1979 .....	80.4	115.4	143.5
1980 .....	74.2	95.4	128.5
1981 .....	81.0	96.1	118.6
1982 .....	74.4	87.7	117.9
1983 .....	93.8	94.9	101.2
1984 .....	95.1	105.3	110.7
1985 .....	91.0	95.1	104.5
1986 .....	97.4	104.6	107.4
1987 .....	100.0	100.0	100.0
1988 .....	107.7	103.2	95.8
1989 .....	108.1	102.5	94.8
Average annual percent change:			
1954-89 .....	2.9	2.8	.1

<sup>1</sup> Class I and II common carriers of general freight.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Based on data from the Interstate Commerce Commission; Trinc Transportation Consultants, a division of Dunn and Bradstreet, Inc.; and the American Trucking Associations.

**Table 144. Air transportation (SIC 4512, 4513, 4522 part): Indexes of output per employee and related measures, 1970-94**  
(1987=100)

Year	Output per employee	Output	Employees
<b>Index:</b>			
1970	45.4	35.1	77.2
1971	48.4	35.9	74.1
1972	53.3	39.4	73.9
1973	54.3	41.8	76.9
1974	55.0	41.9	78.1
1975	55.8	41.8	74.9
1976	60.5	45.8	75.7
1977	63.3	46.2	77.7
1978	69.4	56.1	80.9
1979	75.5	65.0	86.1
1980	70.8	62.8	88.5
1981	70.4	61.3	87.1
1982	77.7	64.0	82.4
1983	85.5	69.2	81.0
1984	88.8	75.2	84.7
1985	92.0	81.9	89.0
1986	93.8	90.0	95.9
1987	100.0	100.0	100.0
1988	99.5	105.1	105.8
1989	95.8	108.4	113.1
1990	92.9	113.3	122.0
1991	92.5	111.1	120.1
1992	98.9	118.4	122.2
1993	103.8	126.8	122.2
1994	105.7	131.1	124.0
<b>Average annual percent change:</b>			
1947-94	5.8	9.6	3.6
1990-94	3.3	3.7	.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Based on data from the Research and Special Programs Administration, Office of Airline Statistics, U.S. Department of Transportation.

**Table 145. Petroleum pipelines (SIC 4612, 4613): Indexes of output per hour and related measures, 1970-94**  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees	
					All employees	Nonsupervisory workers
<b>Index:</b>						
1970	75.8	75.2	70.2	92.8	93.4	102.1
1971	78.5	77.7	71.4	91.0	92.0	96.5
1972	88.4	86.8	77.2	87.3	88.9	95.6
1973	93.2	91.9	82.2	88.2	89.4	95.6
1974	90.6	89.2	82.1	90.8	92.0	96.5
1975	91.1	88.6	82.5	90.8	93.1	97.1
1976	90.7	90.2	84.8	93.5	94.1	96.2
1977	95.1	95.1	93.5	98.3	98.3	99.2
1978	96.6	96.1	100.1	103.8	104.2	103.6
1979	96.9	97.4	104.1	107.5	106.9	104.3
1980	88.6	88.8	100.6	113.8	113.3	110.9
1981	82.1	83.7	97.0	118.2	115.9	111.7
1982	84.3	85.7	97.1	115.2	113.3	107.3
1983	89.7	89.4	95.6	106.5	106.9	102.9
1984	99.4	96.2	97.7	98.3	101.6	96.5
1985	99.9	98.4	97.7	97.8	99.3	97.9
1986	102.0	102.6	99.1	97.2	98.6	97.1
1987	100.0	100.0	100.0	100.0	100.0	100.0
1988	104.8	105.0	103.3	98.6	98.4	94.2
1989	103.2	101.9	100.3	97.2	98.4	96.4
1990	102.5	102.0	100.4	97.9	98.4	99.3
1991	99.0	98.3	99.4	100.3	101.1	102.9
1992	100.2	99.0	101.1	100.9	102.1	105.8
1993	104.4	104.4	102.2	97.9	97.9	103.6
1994	105.1	109.1	102.1	97.2	93.6	100.0
<b>Average annual percent change:</b>						
1958-94	4.1	4.2	3.2	-9	-1.0	-1.3
1990-94	.6	1.7	.4	-2	-1.2	.2

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Oil and Gas Journal, Penn Well Publishing Company; the American Petroleum Institute; the Association of Oil

Pipe Lines; and the Interstate Commerce Commission. Employment and hours based on data from the Bureau of Labor Statistics and the Interstate Commerce Commission.

**Table 146. Telephone communications (SIC 481): Indexes of output per hour and related measures, 1970-94**  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1970 .....	35.6	33.9	35.4	99.4	104.5
1971 .....	38.3	35.3	37.2	97.1	105.4
1972 .....	40.1	38.3	40.6	101.1	105.9
1973 .....	42.7	41.0	44.6	104.5	108.9
1974 .....	45.0	43.3	48.6	106.7	110.9
1975 .....	49.3	46.5	49.8	101.0	107.2
1976 .....	53.6	50.4	53.2	99.4	105.8
1977 .....	57.3	55.2	58.6	102.2	108.1
1978 .....	60.6	58.8	64.9	107.0	110.3
1979 .....	63.5	61.6	71.5	112.6	116.2
1980 .....	67.6	65.6	78.0	115.4	118.8
1981 .....	71.1	69.0	82.3	115.7	119.3
1982 .....	73.8	70.9	84.3	114.2	118.8
1983 .....	84.6	81.6	86.5	102.2	106.0
1984 .....	84.5	82.5	87.2	103.2	105.7
1985 .....	88.9	88.2	90.0	101.3	102.1
1986 .....	95.0	95.0	93.0	97.9	97.9
1987 .....	100.0	100.0	100.0	100.0	100.0
1988 .....	106.2	105.9	105.8	99.7	99.9
1989 .....	111.6	110.3	108.3	97.0	98.2
1990 .....	113.3	111.9	113.3	100.0	101.2
1991 .....	119.8	117.5	118.4	98.9	100.8
1992 .....	127.7	126.1	123.8	97.0	98.1
1993 .....	134.5	133.5	130.1	96.8	97.5
1994 .....	135.7	135.1	135.3	99.6	100.1
Average annual percent change:					
1951-94 .....	5.8	5.9	6.8	.9	.8
1990-94 .....	4.6	4.8	4.5	-1.1	-1.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Federal Communications Commission; the

Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 147. Gas and electric utilities (SIC 491, 492, 493): Indexes of output per hour and related measures, 1970-94**  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees	
					All employees	Nonsupervisory workers
<b>Index:</b>						
1970 .....	95.5	95.7	74.8	78.1	78.2	85.5
1971 .....	100.6	100.4	78.9	78.4	78.6	85.6
1972 .....	104.1	104.3	83.9	80.8	80.4	87.2
1973 .....	105.3	106.2	87.4	83.0	82.3	88.8
1974 .....	103.3	103.4	86.7	83.9	83.8	89.8
1975 .....	107.0	106.0	87.2	81.5	82.3	87.7
1976 .....	109.9	109.0	89.8	81.8	82.4	87.1
1977 .....	111.4	110.9	92.9	83.3	83.7	87.8
1978 .....	109.3	110.3	96.1	87.9	87.1	90.3
1979 .....	109.0	109.7	99.0	90.8	90.2	93.5
1980 .....	107.2	106.1	100.1	93.4	92.6	96.1
1981 .....	105.2	105.2	100.5	95.5	95.5	99.0
1982 .....	98.8	99.0	97.2	98.3	98.1	100.7
1983 .....	96.3	96.3	95.3	99.0	99.0	100.5
1984 .....	99.5	99.7	99.8	100.3	100.1	100.8
1985 .....	98.0	98.6	99.8	101.9	101.2	101.9
1986 .....	97.0	97.8	98.5	101.5	100.9	101.4
1987 .....	100.0	100.0	100.0	100.0	100.0	100.0
1988 .....	105.0	105.3	104.5	99.5	99.3	99.0
1989 .....	106.8	106.1	106.5	99.9	98.5	98.1
1990 .....	106.2	106.9	106.5	100.2	99.8	99.5
1991 .....	108.5	109.1	108.0	99.6	99.0	98.8
1992 .....	110.1	111.3	108.6	98.7	97.6	96.7
1993 .....	116.7	119.0	113.5	97.2	95.4	94.3
1994 .....	120.7	123.8	114.7	94.9	92.5	91.5
Average annual percent change:						
1947-94 .....	3.8	3.8	4.9	1.0	1.0	.8
1990-94 .....	3.3	3.7	1.8	-1.3	-1.8	-2.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association; the Rural Electrification Administration, U.S. Department of Agriculture; the Energy

Information Administration, U.S. Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 148. Electric utilities (SIC 491, 493 part): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1970 .....	76.9	77.2	54.8	71.3	71.0
1971 .....	81.4	81.5	58.5	71.8	71.7
1972 .....	85.5	86.0	63.4	74.1	73.7
1973 .....	88.4	88.7	68.4	77.4	78.3
1974 .....	87.1	87.5	68.4	78.5	78.1
1975 .....	92.5	91.8	70.5	76.2	76.9
1976 .....	95.4	95.0	73.6	77.1	77.5
1977 .....	99.7	99.5	78.6	78.8	79.0
1978 .....	98.6	98.1	81.5	84.4	83.1
1979 .....	95.2	96.5	83.6	87.7	86.8
1980 .....	93.7	95.1	85.2	90.9	89.6
1981 .....	92.8	93.0	85.9	92.8	92.4
1982 .....	89.2	89.8	85.0	95.3	94.8
1983 .....	90.4	90.8	87.2	96.5	96.2
1984 .....	93.8	94.1	92.3	98.4	98.1
1985 .....	93.0	93.9	94.1	101.2	100.2
1986 .....	95.3	96.1	96.5	101.3	100.4
1987 .....	100.0	100.0	100.0	100.0	100.0
1988 .....	104.9	105.1	104.9	100.0	99.8
1989 .....	107.7	109.0	107.7	100.0	98.8
1990 .....	110.1	110.4	110.0	99.9	99.7
1991 .....	113.4	113.4	112.5	99.2	99.2
1992 .....	115.2	115.9	112.3	97.4	96.9
1993 .....	120.6	122.5	117.2	97.2	95.7
1994 .....	127.7	130.4	120.7	94.5	92.5
<b>Average annual percent change:</b>					
1958-94 .....	3.7	3.8	5.0	1.2	1.1
1990-94 .....	3.8	4.3	2.3	-1.4	-1.9

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Rural Electrification Administration, U.S.

Department of Agriculture; and the Energy Information Administration, U.S. Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 149. Gas utilities (SIC 492, 493 part): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1970 .....	142.3	142.3	141.6	99.5	98.5
1971 .....	148.8	147.6	145.9	98.0	98.8
1972 .....	149.6	149.3	149.8	100.0	100.1
1973 .....	145.5	145.0	145.2	99.8	100.1
1974 .....	141.9	141.0	141.9	100.0	100.6
1975 .....	139.3	136.1	135.8	97.4	98.2
1976 .....	142.2	140.5	136.1	95.7	96.8
1977 .....	136.6	135.4	132.2	96.8	97.8
1978 .....	138.4	137.4	136.1	98.3	99.0
1979 .....	141.4	140.1	141.4	100.0	100.9
1980 .....	139.9	138.8	140.9	100.7	101.5
1981 .....	134.7	133.9	140.1	104.0	104.7
1982 .....	121.5	120.8	130.4	107.3	107.9
1983 .....	110.8	110.3	118.1	106.8	107.1
1984 .....	114.1	114.2	121.0	106.1	105.9
1985 .....	111.9	111.5	116.2	103.9	104.2
1986 .....	102.1	102.3	104.5	102.4	102.1
1987 .....	100.0	100.0	100.0	100.0	100.0
1988 .....	105.5	105.7	103.3	98.0	97.8
1989 .....	103.5	105.8	103.0	99.5	97.5
1990 .....	94.8	96.7	96.1	101.3	99.3
1991 .....	94.0	96.4	94.9	100.9	98.5
1992 .....	95.3	97.9	97.6	102.4	99.7
1993 .....	105.0	106.3	102.3	97.4	94.4
1994 .....	100.3	104.2	96.2	95.9	92.3
<b>Average annual percent change:</b>					
1958-94 .....	.7	.9	.8	.1	-.1
1990-94 .....	1.4	1.9	.0	-1.4	-1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association. Employment and hours based on data from the Bureau of Labor Statistics.

**Table 150. Scrap and waste materials (SIC 5093): Indexes of output per hour and related measures, 1977-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1977 .....	73.5	73.0	74.6	101.5	102.2
1978 .....	81.3	81.1	81.1	99.8	100.1
1979 .....	81.1	81.1	80.7	110.8	110.8
1980 .....	79.2	77.5	85.3	108.9	111.3
1981 .....	78.8	78.1	81.3	108.2	108.8
1982 .....	75.1	73.1	86.4	91.1	93.6
1983 .....	90.1	89.3	78.0	86.6	87.4
1984 .....	89.1	88.2	84.9	85.3	86.3
1985 .....	93.4	91.6	87.5	93.7	95.5
1986 .....	97.7	97.2	91.8	94.0	94.5
1987 .....	100.0	100.0	100.0	100.0	100.0
1988 .....	95.4	96.5	106.7	113.9	112.7
1989 .....	86.0	86.6	107.8	125.4	121.8
1990 .....	98.6	99.6	111.8	113.4	112.2
1991 .....	98.9	98.9	110.5	111.8	111.8
1992 .....	101.7	103.9	117.1	115.2	112.7
1993 .....	109.4	111.2	125.2	114.4	112.6
1994 .....	106.6	115.6	125.8	127.3	117.3
<b>Average annual percent change:</b>					
1977-94 .....	2.2	2.7	3.6	1.3	.8
1980-94 .....	2.0	3.8	4.9	2.9	1.1

<sup>1</sup> All persons include paid employees and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the American Paper Institute. Persons and hours based on data from the Bureau of Labor Statistics.

**Table 151. Hardware stores (SIC 525): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1972 .....	85.2	90.1	74.3	87.2	82.5
1973 .....	83.3	87.3	73.5	88.3	84.2
1974 .....	80.1	83.6	72.5	90.5	86.8
1975 .....	82.4	85.7	75.3	91.4	87.9
1976 .....	80.7	86.8	77.4	95.9	89.2
1977 .....	84.7	87.8	82.0	96.8	93.4
1978 .....	85.0	86.9	85.4	100.5	96.0
1979 .....	97.5	93.5	95.4	97.9	96.9
1980 .....	94.9	94.7	92.5	97.5	97.7
1981 .....	91.4	91.1	87.5	95.7	96.1
1982 .....	93.0	92.6	85.5	91.3	92.3
1983 .....	91.5	91.1	87.4	95.5	95.9
1984 .....	96.6	96.2	98.0	101.4	101.8
1985 .....	95.6	94.3	97.0	101.4	102.8
1986 .....	101.6	99.7	99.8	98.1	99.9
1987 .....	100.0	100.0	100.0	100.0	100.0
1988 .....	108.6	105.8	105.5	97.1	99.7
1989 .....	115.2	111.5	110.1	95.9	99.1
1990 .....	110.4	107.4	107.3	97.2	99.9
1991 .....	102.5	100.3	100.9	98.5	100.6
1992 .....	107.2	106.0	104.4	97.4	98.5
1993 .....	106.7	103.8	106.9	100.3	103.0
1994 .....	114.1	112.7	113.0	99.0	100.2
<b>Average annual percent change:</b>					
1972-94 .....	1.3	1.0	1.9	.8	.8
1980-94 .....	.8	1.2	1.3	.5	.5

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of

the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 152. Department stores (SIC 531): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1970	54.8	62.7	48.6	88.6	77.5
1971	58.0	66.2	52.7	91.0	79.7
1972	58.4	66.9	56.7	97.0	84.7
1973	60.8	69.1	50.8	100.0	87.9
1974	60.2	68.0	50.3	98.4	87.2
1975	63.7	70.9	59.6	93.6	84.1
1976	67.1	73.5	63.2	94.3	86.0
1977	71.1	76.4	67.9	95.5	88.8
1978	73.1	77.0	72.2	96.9	83.8
1979	74.0	78.3	73.0	96.6	83.2
1980	73.6	77.0	71.6	97.2	83.0
1981	77.9	81.5	75.8	97.3	83.0
1982	79.6	83.5	76.2	95.8	91.3
1983	85.0	89.2	81.2	95.5	91.0
1984	90.4	93.5	89.1	96.6	95.3
1985	92.6	94.5	91.4	96.8	95.8
1986	97.4	98.1	96.5	99.1	98.4
1987	100.0	100.0	100.0	100.0	100.0
1988	99.2	99.0	101.6	102.4	102.8
1989	96.9	97.0	104.8	108.1	108.0
1990	94.2	95.2	104.4	110.9	109.7
1991	98.2	100.1	105.9	107.8	105.8
1992	101.2	105.8	112.1	110.8	106.1
1993	105.0	109.3	119.3	113.7	109.2
1994	108.5	114.4	129.1	119.0	112.9
Average annual percent change:					
1967-94	2.5	2.1	4.0	1.5	1.9
1990-94	3.6	4.7	5.5	1.8	.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 153. Variety stores (SIC 533): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	154.9	164.0	203.9	131.6	124.3
1971	145.1	155.4	198.6	136.9	127.8
1972	155.0	166.2	209.8	135.4	126.3
1973	148.9	157.7	207.7	139.5	131.7
1974	147.4	152.4	197.6	134.1	129.7
1975	151.6	159.9	187.7	123.8	117.4
1976	132.1	136.8	160.3	121.3	117.3
1977	122.3	123.1	147.5	120.6	119.9
1978	122.1	120.4	144.4	118.2	119.9
1979	123.3	125.4	146.8	119.1	117.1
1980	128.6	129.4	136.0	105.8	105.1
1981	140.5	138.6	134.2	95.5	94.8
1982	132.6	133.4	128.2	96.7	96.1
1983	139.2	141.8	127.2	91.4	89.7
1984	141.9	143.3	130.2	91.7	90.8
1985	129.2	129.5	124.0	95.9	95.7
1986	106.7	107.2	107.8	101.0	100.8
1987	100.0	100.0	100.0	100.0	100.0
1988	101.9	101.3	100.7	98.8	99.4
1989	124.5	119.7	103.5	83.2	86.5
1990	151.3	147.8	104.1	68.8	70.4
1991	154.3	148.8	101.5	65.8	66.2
1992	167.7	165.0	113.6	67.8	66.9
1993	170.4	163.9	106.8	62.7	65.1
1994	155.2	152.9	92.3	59.5	60.4
Average annual percent change:					
1967-94	.4	.1	-2.5	-2.9	-2.6
1990-94	.6	.9	-3.0	-3.6	-3.8

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of

the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 154. Food stores (SIC 54): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	114.0	126.7	83.5	73.4	85.0
1971	114.8	126.7	84.8	74.0	85.9
1972	113.8	126.2	86.1	75.8	87.2
1973	109.0	122.8	83.8	76.9	88.3
1974	104.4	115.6	82.1	78.6	71.0
1975	106.1	115.4	83.4	78.6	72.3
1976	106.2	118.9	87.2	80.6	73.3
1977	107.1	116.4	87.1	81.3	74.8
1978	103.2	111.4	86.0	85.3	79.0
1979	105.4	111.9	90.3	85.7	80.7
1980	107.6	111.2	92.3	85.8	83.0
1981	104.6	107.7	92.0	87.9	85.4
1982	103.3	106.1	92.3	89.4	87.0
1983	103.1	105.5	93.9	91.1	89.0
1984	103.7	105.3	98.1	92.7	91.3
1985	104.1	104.0	98.4	94.5	94.8
1986	103.1	102.2	98.8	96.8	97.7
1987	100.0	100.0	100.0	100.0	100.0
1988	99.0	98.2	100.9	101.9	102.7
1989	98.0	94.9	100.9	105.1	108.3
1990	96.0	94.2	101.3	105.4	107.4
1991	94.9	92.7	99.3	104.8	107.2
1992	94.5	92.9	98.5	104.3	106.1
1993	93.3	91.8	98.8	105.8	107.4
1994	92.7	90.9	99.2	107.0	109.1
<b>Average annual percent change:</b>					
1958-94	.5	-3	1.5	1.0	1.8
1990-94	-9	-9	-5	.4	.4

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of

Economic Analysis, U.S. Department of Commerce; the Bureau of Labor Statistics; and the Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 155. Grocery stores (SIC 541): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1972	113.4	128.2	85.3	75.2	88.5
1973	109.1	123.2	83.0	76.1	87.4
1974	104.7	115.9	81.3	77.6	70.1
1975	106.5	116.1	82.9	77.8	71.4
1976	108.6	120.1	86.7	79.8	72.2
1977	107.8	117.9	86.8	80.4	73.5
1978	104.6	113.5	87.5	83.7	77.1
1979	108.8	113.7	89.9	84.2	79.1
1980	108.2	112.0	91.8	84.7	81.8
1981	105.9	108.9	91.3	86.2	85.8
1982	106.1	108.3	92.0	86.7	84.9
1983	108.6	108.2	93.7	87.9	88.8
1984	107.9	108.9	98.4	89.3	88.5
1985	105.7	105.8	98.9	93.8	83.5
1986	103.8	103.0	100.4	96.7	97.4
1987	100.0	100.0	100.0	100.0	100.0
1988	98.9	98.1	101.2	102.4	103.2
1989	95.4	94.3	101.4	108.3	107.5
1990	94.6	92.9	101.8	107.8	109.7
1991	93.7	91.4	99.9	106.8	109.3
1992	93.3	91.9	99.5	106.8	108.2
1993	92.7	91.0	99.5	107.3	108.3
1994	91.7	90.1	99.8	108.9	110.8
<b>Average annual percent change:</b>					
1972-94	-1.0	-1.8	.7	1.7	2.3
1990-94	-8	-8	-5	.3	.2

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census; the Bureau of Labor Statistics; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 156. Retail bakeries (SIC 546): Indexes of output per hour and related measures, 1972-94

(1987=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1972 .....	126.8	136.4	88.4	69.8	64.9
1973 .....	125.8	136.2	88.5	70.5	65.0
1974 .....	116.8	132.5	85.7	73.4	64.7
1975 .....	105.5	111.7	71.8	68.1	64.3
1976 .....	114.0	117.3	77.5	68.0	66.1
1977 .....	112.7	116.9	81.8	72.8	70.0
1978 .....	112.2	115.3	84.3	75.1	73.1
1979 .....	112.3	117.4	90.2	80.3	76.8
1980 .....	117.3	122.0	92.8	79.1	78.0
1981 .....	112.4	115.2	88.0	78.3	76.4
1982 .....	104.6	106.6	86.3	82.5	80.9
1983 .....	104.8	104.8	85.6	81.8	81.8
1984 .....	96.0	98.1	85.0	88.5	86.8
1985 .....	87.6	89.1	79.5	90.8	89.3
1986 .....	93.6	94.1	87.0	93.0	92.5
1987 .....	100.0	100.0	100.0	100.0	100.0
1988 .....	89.8	90.7	91.0	101.3	100.4
1989 .....	83.3	83.5	81.1	97.3	97.1
1990 .....	89.7	91.2	83.6	91.3	91.8
1991 .....	94.7	94.6	84.7	94.4	89.5
1992 .....	94.0	93.2	85.0	105.5	91.3
1993 .....	86.0	86.8	81.9	91.2	94.4
1994 .....	87.8	88.5	86.3	98.2	97.4
<b>Average annual percent change:</b>					
1972-94 .....	-1.6	-1.9	-1	1.6	1.9
1990-94 .....	-5	-7	-8	1.3	1.5

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census; the Bureau of Labor Statistics; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 157. New and used car dealers (SIC 551): Indexes of output per hour and related measures, 1970-94  
(1987=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1970 .....	78.1	83.2	65.3	85.8	78.5
1971 .....	80.9	88.2	70.1	86.6	79.5
1972 .....	83.9	90.8	78.2	90.8	83.9
1973 .....	85.1	91.5	79.4	93.3	86.8
1974 .....	82.4	87.9	71.6	86.9	81.5
1975 .....	83.9	89.4	70.6	84.1	79.0
1976 .....	87.1	92.4	77.0	88.4	83.3
1977 .....	88.3	92.6	80.3	90.9	86.7
1978 .....	88.5	91.6	83.2	94.0	90.8
1979 .....	88.3	89.8	83.9	93.7	90.3
1980 .....	87.9	90.3	72.8	82.8	80.8
1981 .....	86.8	89.2	68.2	78.8	78.5
1982 .....	88.8	90.4	67.9	78.5	75.1
1983 .....	97.6	99.1	77.4	79.3	78.1
1984 .....	99.5	101.2	86.9	87.3	85.9
1985 .....	99.8	101.2	93.7	93.9	92.6
1986 .....	101.6	102.1	98.6	97.2	96.8
1987 .....	100.0	100.0	100.0	100.0	100.0
1988 .....	103.5	103.5	107.2	103.6	103.8
1989 .....	102.5	101.7	104.8	132.3	103.1
1990 .....	106.1	105.8	105.8	99.7	100.0
1991 .....	104.2	103.8	98.7	94.8	95.1
1992 .....	106.5	106.8	101.1	94.9	94.7
1993 .....	107.7	108.0	100.1	96.5	96.2
1994 .....	109.2	108.6	113.3	103.7	104.3
<b>Average annual percent change:</b>					
1958-94 .....	1.9	1.4	2.8	.8	1.4
1990-94 .....	.7	.7	1.7	1.0	1.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor

Statistics, the National Automobile Dealers Association, and Ward's Communications, Inc. (Ward's Automotive Yearbooks). Employment and hours based on data from the Bureau of Labor Statistics.

**Table 158. Auto and home supply stores (SIC 553): Indexes of output per hour and related measures, 1972-94  
(1967=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1972	68.3	74.8	46.4	68.0	62.1
1973	71.1	77.7	52.5	73.8	67.8
1974	66.8	72.1	51.3	77.1	71.2
1975	70.3	75.1	54.8	78.0	73.0
1976	70.5	75.2	57.8	81.7	78.6
1977	77.8	83.2	66.7	86.0	80.2
1978	80.7	82.9	69.5	86.1	83.9
1979	80.1	82.3	72.4	90.4	88.0
1980	82.8	85.3	71.8	86.7	84.2
1981	84.7	86.9	73.8	87.1	84.9
1982	63.3	85.7	73.4	88.1	85.8
1983	91.7	92.5	82.0	89.4	88.8
1984	90.4	92.7	88.8	98.2	98.8
1985	94.5	98.5	96.0	101.6	99.5
1986	94.3	98.8	95.5	101.2	99.9
1987	100.0	100.0	100.0	100.0	100.0
1988	103.2	102.9	107.9	104.8	104.9
1989	101.5	99.9	105.8	104.2	105.9
1990	102.8	101.7	109.2	106.3	107.4
1991	98.9	98.2	103.2	104.3	105.1
1992	98.9	97.3	102.6	103.7	105.5
1993	98.9	98.2	106.9	108.0	108.9
1994	101.4	100.1	113.4	111.9	113.3
<b>Average annual percent change:</b>					
1972-94	1.8	1.3	4.1	2.3	2.8
1990-94	-3	-4	.9	1.3	1.3

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

**Table 159. Gasoline service stations (SIC 554): Indexes of output per hour and related measures, 1970-94  
(1967=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	51.3	62.1	79.6	155.1	126.1
1971	53.1	64.4	83.0	156.3	128.8
1972	55.5	66.9	88.3	159.2	132.0
1973	59.5	69.0	89.9	151.1	130.2
1974	59.6	68.2	79.7	133.7	117.0
1975	58.5	67.2	82.0	140.1	121.9
1976	64.4	71.3	85.6	132.8	120.0
1977	68.6	74.8	88.0	128.3	117.9
1978	70.7	76.5	89.0	125.9	118.4
1979	73.7	77.7	83.2	113.0	107.1
1980	72.1	76.1	78.6	109.1	103.4
1981	73.3	77.1	77.7	106.0	100.7
1982	78.9	79.8	76.7	99.7	98.0
1983	84.1	86.6	87.1	98.7	95.8
1984	87.0	89.7	87.8	100.9	97.9
1985	93.5	94.4	91.5	97.9	97.0
1986	101.8	103.1	101.2	99.4	98.2
1987	100.0	100.0	100.0	100.0	100.0
1988	107.0	102.5	103.6	100.6	101.1
1989	106.1	103.3	106.0	100.8	102.8
1990	102.1	101.3	105.8	103.1	104.5
1991	104.3	102.9	105.3	101.0	102.3
1992	109.7	106.3	104.7	95.5	96.5
1993	112.4	109.1	106.1	94.4	97.3
1994	115.0	110.6	110.6	91.4	98.2
<b>Average annual percent change:</b>					
1958-94	3.5	2.6	2.3	-1.1	-2
1990-94	2.9	2.2	.7	-2.2	-1.5

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Treasury.

**Table 160. Apparel and accessory stores (SIC 56): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	57.2	65.3	43.9	78.8	67.3
1971	59.1	67.0	46.8	78.9	69.5
1972	64.3	71.2	49.8	77.4	69.9
1973	70.2	77.5	55.1	78.5	71.0
1974	69.3	76.3	53.9	77.7	70.8
1975	74.0	80.7	58.4	78.3	69.9
1976	72.5	78.8	58.8	81.2	74.7
1977	71.2	76.8	60.0	84.3	78.2
1978	77.5	82.7	67.2	86.8	81.3
1979	79.1	83.5	70.4	89.0	84.3
1980	82.4	85.8	72.8	88.1	84.8
1981	86.7	90.0	77.2	89.0	85.8
1982	88.9	91.9	77.9	87.6	84.7
1983	93.5	96.1	83.2	88.9	88.5
1984	96.3	100.7	88.2	89.7	87.6
1985	101.3	102.5	92.9	91.7	90.6
1986	106.3	108.1	100.0	94.0	94.2
1987	100.0	100.0	100.0	100.0	100.0
1988	100.5	100.7	103.3	102.8	102.6
1989	102.1	102.9	109.3	107.0	106.2
1990	101.7	102.9	108.8	107.0	105.7
1991	102.7	103.7	106.8	104.0	103.0
1992	109.3	110.4	111.8	102.1	101.2
1993	110.1	110.4	113.4	103.0	102.7
1994	114.4	115.3	116.8	101.9	101.1
<b>Average annual percent change:</b>					
1987-94	2.6	2.1	3.9	1.2	1.8
1990-94	3.0	2.9	1.7	-1.2	-1.1

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics and the Bureau of the Census.

**Table 161. Men's and boys' clothing stores (SIC 561): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	61.8	68.5	84.3	136.3	123.1
1971	64.7	70.8	88.4	136.7	124.9
1972	72.8	79.7	101.0	138.8	126.8
1973	77.6	84.5	105.7	138.2	125.0
1974	73.3	78.9	96.0	133.7	124.2
1975	76.8	83.1	100.8	130.9	121.0
1976	73.1	78.5	99.8	136.8	127.2
1977	76.2	81.2	102.8	134.9	126.8
1978	80.5	85.1	108.4	134.7	127.4
1979	82.3	86.8	109.8	133.4	126.8
1980	80.8	85.0	103.9	128.5	122.2
1981	87.5	90.5	102.1	110.7	112.9
1982	87.3	89.6	97.5	111.8	108.8
1983	89.4	91.1	97.2	108.7	106.6
1984	93.7	95.0	98.5	105.1	103.7
1985	98.3	98.2	98.7	100.4	100.5
1986	100.7	100.8	99.5	98.8	98.7
1987	100.0	100.0	100.0	100.0	100.0
1988	106.0	104.5	104.8	98.7	100.1
1989	109.3	107.5	107.9	98.7	100.3
1990	112.8	110.2	103.6	91.8	94.0
1991	117.7	119.0	100.0	85.0	87.0
1992	116.4	114.8	96.2	82.8	83.9
1993	115.7	115.9	96.1	83.1	82.9
1994	136.1	138.1	114.1	82.7	82.6
<b>Average annual percent change:</b>					
1987-94	3.0	2.5	1.8	-1.5	-1.0
1990-94	5.2	5.8	2.4	-2.8	-3.2

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the

Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 162. Women's clothing stores (SIC 562): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	47.9	55.5	39.1	81.7	70.5
1971	51.8	59.5	43.5	84.1	73.1
1972	53.9	61.0	45.2	83.9	74.2
1973	58.9	66.0	50.1	85.1	75.9
1974	60.3	66.8	50.3	83.4	75.2
1975	66.5	73.5	55.1	82.9	75.0
1976	65.4	72.8	58.4	80.2	69.4
1977	62.9	68.7	57.5	91.3	83.8
1978	70.2	75.1	65.5	83.3	87.1
1979	72.8	76.7	68.4	84.0	88.2
1980	74.3	77.2	68.9	82.7	88.2
1981	60.7	63.8	74.1	91.8	88.4
1982	69.9	62.6	78.1	86.8	84.3
1983	94.8	96.2	84.5	89.1	86.0
1984	98.0	101.5	89.9	91.7	88.8
1985	99.8	101.9	95.3	95.5	93.5
1986	107.0	106.9	104.0	97.2	97.3
1987	100.0	100.0	100.0	100.0	100.0
1988	97.5	98.8	98.7	102.2	103.0
1989	99.1	97.7	104.5	105.4	107.0
1990	100.0	98.0	101.7	100.9	103.8
1991	101.9	99.7	98.4	96.8	98.7
1992	110.7	108.7	102.8	92.8	94.5
1993	116.2	113.4	104.8	90.0	92.2
1994	115.9	114.8	109.6	86.8	87.8
Average annual percent change:					
1987-94	3.6	2.8	3.9	.3	1.1
1990-94	3.6	4.0	-3	-3.7	-4.2

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the

Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 163. Family clothing stores (SIC 565): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	52.2	62.7	29.8	57.0	47.5
1971	59.3	68.9	33.4	58.3	48.5
1972	65.8	73.8	35.9	54.5	48.8
1973	78.2	83.9	41.5	54.5	49.5
1974	75.2	82.5	42.0	55.8	50.9
1975	76.8	83.9	43.4	56.8	51.8
1976	75.4	82.1	45.7	60.8	55.7
1977	69.7	78.2	48.5	69.8	63.7
1978	70.0	76.2	50.9	72.8	66.7
1979	75.4	79.5	54.4	72.1	68.4
1980	88.3	88.2	60.2	89.8	88.3
1981	92.5	95.5	65.7	71.0	88.8
1982	98.4	102.8	71.3	72.5	90.5
1983	106.4	109.2	78.8	74.1	72.2
1984	106.2	108.9	83.5	78.7	78.7
1985	103.1	104.3	87.1	84.5	83.5
1986	103.3	103.6	93.8	90.8	80.5
1987	100.0	100.0	100.0	100.0	100.0
1988	102.4	101.9	107.0	104.5	105.0
1989	105.5	105.3	115.3	108.3	108.5
1990	104.9	106.2	119.1	113.5	112.1
1991	106.9	108.6	123.5	115.5	113.7
1992	112.3	114.8	131.4	117.1	114.5
1993	111.6	113.5	136.7	122.4	120.4
1994	116.7	118.7	145.7	124.8	122.8
Average annual percent change:					
1987-94	3.0	2.5	8.3	3.1	3.7
1990-94	2.7	2.8	5.2	2.4	2.3

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the

Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 164. Shoe stores (SIC 566): Indexes of output per hour and related measures, 1970-84  
(1987=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	77.2	84.0	56.6	73.4	87.4
1971	79.2	77.1	55.7	79.3	72.2
1972	78.5	81.3	55.5	78.4	71.9
1973	81.3	87.3	53.7	78.4	73.0
1974	71.4	77.2	50.0	81.2	78.1
1975	77.0	81.3	50.1	78.7	72.7
1976	78.7	83.1	51.8	78.5	74.3
1977	80.8	85.2	53.3	82.1	77.8
1978	88.5	92.5	74.7	84.4	88.8
1979	90.9	94.1	81.0	88.1	86.1
1980	98.7	91.3	82.2	82.8	90.0
1981	91.9	94.1	87.7	85.5	90.2
1982	98.6	90.9	82.3	82.9	91.9
1983	87.4	88.8	86.7	86.0	86.5
1984	90.8	90.9	87.3	88.4	86.0
1985	97.6	97.1	91.5	93.8	94.3
1986	105.5	104.9	98.4	93.3	93.8
1987	100.0	100.0	100.0	100.0	100.0
1988	102.7	103.2	101.4	98.7	98.2
1989	107.2	108.4	108.2	101.9	99.8
1990	108.2	112.7	111.3	104.8	98.7
1991	105.1	111.3	104.8	98.5	94.0
1992	111.5	113.8	104.8	93.9	92.1
1993	110.8	110.1	104.3	94.1	94.7
1994	117.8	115.5	105.3	88.4	91.1
<b>Average annual percent change:</b>					
1987-94	1.8	1.1	2.5	.9	1.4
1990-94	2.6	.8	-1.4	-3.9	-2.0

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the

Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 165. Home furniture, furnishings, and equipment stores (SIC 57): Indexes of output per hour and related measures, 1970-84  
(1987=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	58.4	81.5	39.0	88.1	83.4
1971	58.3	81.5	40.8	72.1	88.8
1972	62.6	88.2	47.0	75.0	88.8
1973	67.0	71.8	50.9	78.9	71.1
1974	64.9	88.7	50.8	78.2	72.9
1975	64.7	88.7	49.3	78.2	73.0
1976	68.9	71.7	53.0	78.2	73.9
1977	70.2	74.1	58.7	80.8	78.5
1978	70.2	74.8	58.1	88.8	80.8
1979	75.4	79.5	58.5	88.8	82.4
1980	75.1	78.2	63.9	88.1	81.7
1981	78.7	81.2	63.9	81.0	78.5
1982	78.1	77.5	60.9	80.1	78.8
1983	83.1	88.2	70.6	84.9	81.8
1984	80.4	82.2	79.2	87.7	85.9
1985	82.9	94.7	88.5	88.2	83.4
1986	88.5	98.8	98.1	88.8	88.3
1987	100.0	100.0	100.0	100.0	100.0
1988	105.0	107.0	107.9	102.8	100.9
1989	108.1	107.9	114.8	108.1	108.2
1990	108.3	108.7	114.0	105.3	104.8
1991	111.0	112.1	113.9	102.7	101.8
1992	120.4	120.8	119.5	98.2	98.9
1993	125.0	128.0	130.2	104.2	103.3
1994	133.5	134.9	148.7	108.9	108.8
<b>Average annual percent change:</b>					
1987-94	3.8	3.3	5.8	1.8	2.3
1990-94	5.4	5.5	6.5	1.1	.9

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of

the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 166. Furniture and homefurnishings stores (SIC 571): Indexes of output per hour and related measures, 1970-94  
(1967=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	80.3	74.5	40.5	71.5	88.5
1971	72.2	77.8	52.7	73.0	67.8
1972	81.1	86.7	61.8	78.2	71.2
1973	83.9	89.2	65.7	79.5	74.8
1974	81.1	86.6	65.9	81.2	76.1
1975	78.8	83.9	60.5	77.0	72.1
1976	82.3	86.9	64.8	78.8	74.6
1977	87.2	90.7	70.5	80.8	77.7
1978	85.3	89.5	74.2	87.0	83.0
1979	91.0	93.7	79.2	87.0	84.5
1980	84.8	87.8	74.9	88.5	85.5
1981	87.3	89.7	72.7	83.3	81.1
1982	83.8	84.1	68.1	81.3	81.0
1983	88.5	91.4	78.7	85.7	84.0
1984	87.9	98.8	85.8	87.5	86.7
1985	94.8	96.7	90.2	95.1	93.3
1986	101.2	101.8	98.2	98.0	97.8
1987	100.0	100.0	100.0	100.0	100.0
1988	98.9	101.1	104.0	105.2	102.9
1989	101.3	103.5	110.2	108.7	108.4
1990	102.2	103.4	106.3	103.9	102.8
1991	101.8	103.0	102.8	101.1	99.8
1992	108.8	108.9	105.8	97.4	97.1
1993	108.9	110.0	110.9	101.8	100.8
1994	108.7	110.8	118.7	107.4	105.5
Average annual percent change:					
1987-94	2.1	1.7	3.8	1.7	2.1
1990-94	1.8	1.7	2.4	.8	.7

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of

the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 167. Appliance, radio, television, and computer stores (SIC 572, 573): Indexes of output per hour and related measures, 1970-94  
(1967=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	41.8	46.6	27.5	65.8	58.9
1971	39.1	44.4	27.8	70.7	62.3
1972	43.1	48.1	31.5	73.2	65.5
1973	48.8	52.3	34.3	70.7	65.6
1974	47.3	51.3	34.9	73.8	66.1
1975	49.0	53.4	36.7	74.9	68.6
1976	49.7	54.5	39.7	79.8	72.8
1977	51.8	55.8	41.7	80.8	74.7
1978	53.5	58.2	44.8	83.5	78.7
1979	58.1	63.4	50.3	86.6	79.3
1980	64.2	67.8	51.5	80.1	78.1
1981	68.7	71.3	53.3	77.8	74.8
1982	66.8	70.0	52.5	78.5	75.0
1983	75.3	79.9	63.1	83.7	78.9
1984	81.1	84.2	71.4	86.1	84.8
1985	80.8	82.0	66.2	95.2	83.7
1986	97.2	97.3	98.8	99.4	99.3
1987	100.0	100.0	100.0	100.0	100.0
1988	113.8	115.2	113.3	99.8	98.3
1989	112.6	114.0	120.7	107.2	108.0
1990	116.5	115.9	124.7	107.1	107.8
1991	123.9	124.8	130.0	104.9	104.3
1992	136.7	137.4	136.1	101.7	101.2
1993	147.5	148.4	158.4	107.4	106.7
1994	160.5	160.8	191.9	113.3	113.1
Average annual percent change:					
1987-94	6.0	5.4	8.1	2.0	2.8
1990-94	9.8	10.0	11.4	1.4	1.3

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of

the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 168. Household appliance stores (SIC 572): Indexes of output per hour and related measures, 1972-84  
(1987=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1972	55.8	62.0	65.9	118.5	108.3
1973	59.8	64.5	67.6	113.0	104.8
1974	60.0	64.5	65.7	109.5	101.5
1975	68.8	63.4	65.8	99.7	92.4
1976	65.7	61.8	62.2	108.8	101.0
1977	65.5	60.8	67.7	103.2	95.9
1978	65.5	70.0	65.3	105.8	95.1
1979	72.9	77.5	75.5	105.0	95.7
1980	71.9	74.4	73.8	102.3	95.9
1981	75.1	78.8	70.2	93.5	91.5
1982	68.5	66.3	65.0	98.0	91.5
1983	71.6	74.2	74.8	104.4	103.7
1984	67.2	69.4	62.4	94.5	92.2
1985	94.9	97.1	95.8	102.0	95.7
1986	108.5	108.8	107.8	101.1	100.5
1987	100.0	100.0	100.0	100.0	100.0
1988	98.5	98.6	100.8	102.3	102.2
1989	103.5	105.1	107.1	103.5	102.0
1990	102.8	103.9	102.0	98.3	98.2
1991	105.2	108.4	97.5	92.8	90.0
1992	113.9	118.9	100.0	97.8	95.5
1993	114.6	118.8	105.6	95.0	95.0
1994	128.3	131.9	111.8	98.4	94.8
<b>Average annual percent change:</b>					
1972-84	3.8	3.5	2.4	-1.3	-1.0
1980-84	5.3	6.1	2.3	-2.9	-3.7

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of

the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 169. Radio, television, and computer stores (SIC 573): Indexes of output per hour and related measures, 1972-84  
(1987=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1972	38.4	43.8	21.8	55.2	49.9
1973	45.8	48.8	24.6	53.9	50.5
1974	43.4	47.0	25.9	55.8	55.1
1975	45.8	50.1	28.4	55.1	55.5
1976	48.1	52.8	32.7	58.0	52.0
1977	48.8	50.8	33.7	71.9	55.2
1978	48.5	54.2	38.9	74.8	55.1
1979	53.0	58.5	42.1	79.4	71.9
1980	82.3	86.0	44.4	71.3	67.4
1981	67.1	70.1	47.9	71.3	68.3
1982	68.4	72.0	48.1	70.3	68.7
1983	78.4	83.9	59.2	75.5	70.5
1984	79.1	82.8	67.7	85.6	82.0
1985	89.3	90.5	82.8	82.5	91.3
1986	94.1	93.9	92.4	95.6	95.8
1987	100.0	100.0	100.0	100.0	100.0
1988	119.3	121.3	117.8	98.8	97.0
1989	115.7	116.9	125.5	108.5	107.3
1990	120.9	119.8	132.7	109.8	110.8
1991	129.8	129.5	141.4	108.1	108.2
1992	143.5	143.4	152.8	108.5	108.8
1993	157.3	158.7	178.7	112.4	112.8
1994	181.0	179.7	220.8	121.9	122.8
<b>Average annual percent change:</b>					
1972-84	7.2	6.8	11.1	3.7	4.2
1980-84	10.8	10.7	13.8	2.6	2.8

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of

the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 170. Eating and drinking places (SIC 58): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970 .....	108.5	131.8	81.3	58.5	48.5
1971 .....	105.0	126.8	81.4	58.5	48.5
1972 .....	109.0	128.2	84.9	59.5	50.5
1973 .....	110.3	127.2	88.2	61.8	53.8
1974 .....	105.7	119.8	87.4	63.8	58.4
1975 .....	107.9	120.8	70.8	65.4	58.5
1976 .....	108.4	118.9	74.8	68.8	62.7
1977 .....	107.2	114.5	76.9	71.7	67.1
1978 .....	108.4	111.5	80.2	75.3	71.9
1979 .....	108.8	108.0	82.7	77.8	75.9
1980 .....	108.8	107.1	82.8	77.5	77.3
1981 .....	104.1	104.7	82.9	79.8	79.2
1982 .....	103.5	104.4	84.0	81.1	80.4
1983 .....	102.8	103.9	87.1	84.9	83.8
1984 .....	98.9	103.3	88.3	90.3	88.1
1985 .....	96.2	98.0	80.4	94.0	94.2
1986 .....	99.3	97.9	84.5	95.2	98.5
1987 .....	100.0	100.0	100.0	100.0	100.0
1988 .....	102.8	101.9	104.9	102.1	102.9
1989 .....	102.2	100.8	108.1	103.9	105.3
1990 .....	104.0	101.8	108.3	104.1	105.8
1991 .....	103.1	100.1	108.4	103.2	106.3
1992 .....	102.4	98.1	107.1	104.8	108.1
1993 .....	103.1	100.5	112.2	108.8	111.6
1994 .....	103.8	101.9	117.7	113.4	115.5
Average annual percent change:					
1958-94 .....	.3	-.7	2.9	2.8	3.7
1980-94 .....	.0	.1	2.1	2.2	2.0

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of

Economic Analysis, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 171. Drug and proprietary stores (SIC 591): Indexes of output per hour and related measures, 1970-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970 .....	81.3	89.8	73.8	90.8	82.0
1971 .....	83.3	92.1	74.8	88.8	81.2
1972 .....	86.5	95.0	78.5	90.8	82.7
1973 .....	92.2	98.2	82.4	88.4	83.1
1974 .....	93.8	101.2	84.8	90.2	83.6
1975 .....	90.0	98.9	83.7	93.0	83.8
1976 .....	93.8	101.7	85.2	91.9	84.7
1977 .....	87.9	102.3	87.8	88.7	85.8
1978 .....	100.6	105.5	90.1	88.5	85.4
1979 .....	101.8	107.5	93.2	91.5	88.7
1980 .....	104.5	108.2	92.8	98.8	87.4
1981 .....	105.0	105.8	92.8	98.2	87.7
1982 .....	104.9	104.3	90.7	98.4	86.9
1983 .....	108.8	107.4	93.7	98.2	87.2
1984 .....	108.4	108.9	95.9	93.1	88.7
1985 .....	102.5	103.8	95.7	94.3	83.3
1986 .....	101.8	102.2	98.4	108.9	98.3
1987 .....	100.0	100.0	100.0	110.0	100.0
1988 .....	101.9	99.8	100.9	99.1	101.4
1989 .....	102.5	99.8	103.5	101.0	103.7
1990 .....	103.8	101.9	107.7	102.9	105.7
1991 .....	104.7	102.8	107.8	103.0	105.1
1992 .....	103.8	102.6	105.5	101.9	102.8
1993 .....	104.7	104.1	104.9	100.3	100.8
1994 .....	103.7	103.8	105.1	101.3	101.4
Average annual percent change:					
1958-94 .....	2.4	1.7	2.8	.4	1.1
1980-94 .....	.0	.4	-8	-8	-1.0

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor

Statistics. All persons and hours based on data from the Bureau of the Census; the Bureau of Labor Statistics; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 172. Liquor stores (SIC 592): Indexes of output per hour and related measures, 1972-94  
(1987=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1972	95.7	108.4	101.2	105.8	93.4
1973	95.0	108.5	103.2	108.8	94.2
1974	93.6	108.4	103.1	110.1	95.1
1975	93.4	103.7	102.8	113.5	95.9
1976	94.4	105.3	103.9	110.1	96.7
1977	93.3	103.5	105.8	113.2	102.0
1978	98.7	95.5	104.1	117.4	109.0
1979	90.2	95.8	107.8	119.3	112.5
1980	95.7	95.9	110.4	115.4	113.9
1981	97.4	97.5	108.4	111.3	111.1
1982	101.6	100.3	108.4	104.7	108.0
1983	95.8	98.1	107.8	112.3	109.7
1984	93.8	94.0	100.7	107.8	107.2
1985	101.9	98.9	104.7	102.8	105.9
1986	93.8	94.1	102.8	108.8	109.3
1987	100.0	100.0	100.0	100.0	100.0
1988	98.2	98.4	98.5	98.3	98.0
1989	101.1	99.1	95.2	94.2	98.0
1990	105.2	102.1	98.4	93.5	95.3
1991	105.9	101.8	91.5	88.5	90.1
1992	108.4	100.7	86.1	79.4	85.5
1993	100.5	95.3	84.7	84.3	86.9
1994	98.7	93.3	85.5	88.4	91.8
<b>Average annual percent change:</b>					
1972-94	.0	-.7	-.8	-.8	-.1
1980-94	-2.1	-2.2	-3.5	-1.4	-1.2

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Treasury.

Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 173. Miscellaneous shopping goods stores (SIC 594): Indexes of output per hour and related measures, 1977-94  
(1987=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1977	84.1	90.0	80.3	71.6	85.9
1978	91.3	98.0	89.5	78.1	72.4
1979	88.5	92.1	70.1	78.3	78.1
1980	88.4	90.0	88.9	79.0	77.7
1981	87.1	88.7	71.8	82.6	81.0
1982	89.1	88.8	73.2	82.2	81.7
1983	88.2	89.4	75.8	85.8	84.8
1984	82.6	94.2	83.3	90.0	88.4
1985	94.1	94.8	86.5	90.8	90.2
1986	97.1	98.5	91.7	94.5	95.0
1987	100.0	100.0	100.0	100.0	100.0
1988	98.4	97.7	105.9	107.8	108.3
1989	101.7	100.7	111.7	109.8	111.0
1990	101.5	100.1	110.9	109.3	110.7
1991	102.0	99.9	108.8	108.4	108.7
1992	100.6	99.3	108.0	108.3	108.7
1993	103.9	103.8	114.3	110.0	110.1
1994	105.6	104.9	119.0	112.7	113.5
<b>Average annual percent change:</b>					
1977-94	1.3	.9	4.1	2.7	3.2
1980-94	1.0	1.2	1.8	.8	.8

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.  
NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics and the Bureau of the Census.

Table 174. Commercial banks (SIC 602): Indexes of output per hour and related measures, 1970-93  
(1967=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
<b>Index:</b>					
1970	72.5	72.3	44.8	61.5	61.7
1971	75.1	75.1	47.8	63.6	63.8
1972	76.5	76.9	51.4	67.1	66.8
1973	81.2	81.7	57.5	70.8	70.4
1974	78.1	78.9	57.3	75.3	74.5
1975	78.3	77.2	56.5	76.7	75.8
1976	80.5	81.4	63.4	78.8	77.9
1977	84.7	85.9	60.1	81.8	80.5
1978	85.8	85.8	73.3	85.4	84.4
1979	84.1	84.5	75.2	89.5	89.0
1980	78.5	78.8	73.4	93.4	93.1
1981	77.8	78.7	74.7	98.0	94.9
1982	80.1	81.0	78.1	97.6	95.5
1983	87.1	87.8	84.5	97.0	95.4
1984	88.5	89.7	88.1	98.3	97.2
1985	94.3	94.8	93.5	99.2	98.9
1986	96.2	97.0	97.2	101.0	100.2
1987	100.0	100.0	100.0	100.0	100.0
1988	103.4	102.0	101.7	98.3	98.7
1989	102.2	100.5	101.5	98.4	101.0
1990	108.6	108.4	108.1	99.8	101.8
1991	112.3	109.2	108.5	98.8	98.4
1992	117.2	113.9	110.3	94.1	98.8
1993	129.9	125.8	122.1	94.0	97.2
Average annual percent change:					
1967-93	2.4	2.2	4.8	2.4	2.5
1990-93	6.2	5.7	4.1	-1.9	-1.5

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Federal Reserve Bank of Atlanta; the Board of Governors, Federal Reserve System; the Federal Deposit Insurance Corporation; the U.S.

Department of Housing and Urban Development; the VISACARD Network and Interbank Card Network Associations; the American Council of Life Insurance; and the National Automatic Clearing House Association. Employment and hours based on data from the Bureau of Labor Statistics.

Table 175. Hotels and motels (SIC 701): Indexes of output per hour and related measures, 1970-94  
(1967=100)

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	94.5	104.3	53.8	57.0	51.8
1971	94.7	91.4	48.8	57.4	53.2
1972	100.2	106.9	58.5	58.4	56.7
1973	102.4	108.8	63.8	62.3	58.1
1974	95.4	104.8	63.1	63.5	60.2
1975	99.9	103.0	63.3	63.4	61.5
1976	105.8	108.7	68.8	65.2	63.5
1977	111.5	112.5	73.8	68.0	65.4
1978	116.3	117.3	79.3	68.2	67.8
1979	108.7	110.7	80.8	73.7	73.0
1980	103.9	104.1	77.2	74.3	74.1
1981	103.6	104.0	80.5	77.7	77.4
1982	101.9	101.9	80.2	78.7	78.7
1983	105.8	105.0	84.9	80.2	80.8
1984	101.6	101.1	87.2	85.8	86.3
1985	101.2	100.0	91.0	88.9	91.0
1986	98.9	98.3	82.1	83.1	83.7
1987	100.0	100.0	100.0	100.0	100.0
1988	97.6	99.8	105.1	107.7	105.8
1989	95.0	98.5	105.5	111.1	109.4
1990	98.0	98.0	108.8	111.2	111.3
1991	99.0	98.4	108.9	108.0	108.8
1992	107.6	108.5	114.1	108.0	107.1
1993	108.5	108.5	118.0	108.9	108.9
1994	110.0	110.2	120.9	108.9	108.7
Average annual percent change:					
1967-94	1.3	.6	3.5	2.2	2.9
1990-94	3.5	3.5	3.1	-3	-4

<sup>1</sup> All persons include paid employees and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics, the Bureau of the

Census, and the Smith Travel Research Company. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 176. Laundry, cleaning, and garment services (SIC 721): Indexes of output per hour and related measures, 1970-94  
(1967=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1970	102.4	108.4	138.2	134.9	127.5
1971	106.3	109.7	128.6	121.0	117.3
1972	111.0	116.1	129.8	117.0	111.8
1973	110.8	117.8	123.1	111.1	104.5
1974	110.7	115.3	112.5	101.8	97.6
1975	109.8	113.3	108.1	98.7	93.7
1976	111.4	114.1	102.5	92.0	89.8
1977	115.0	117.1	103.4	98.9	98.3
1978	116.7	118.7	104.4	99.4	97.9
1979	109.9	111.5	100.5	91.5	90.2
1980	103.2	104.8	98.5	93.5	92.1
1981	100.6	100.7	90.1	88.8	89.5
1982	105.6	103.5	98.6	93.9	95.6
1983	105.2	103.7	91.1	94.6	97.6
1984	107.5	108.8	97.2	90.4	91.2
1985	103.3	103.9	98.7	95.8	95.0
1986	100.8	101.8	98.0	97.3	98.3
1987	100.0	100.0	100.0	100.0	100.0
1988	97.2	98.3	104.9	108.0	105.7
1989	100.5	102.2	108.5	106.0	104.2
1990	101.0	101.0	106.2	106.1	105.1
1991	98.7	99.0	103.2	104.8	104.3
1992	99.9	100.9	107.4	107.8	108.4
1993	99.8	100.5	106.0	106.3	105.5
1994	101.8	102.0	107.2	105.3	105.1
<b>Average annual percent change:</b>					
1972-94	.5	.1	-.8	-1.1	-.7
1990-94	1.2	.2	.2	.0	.0

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics; Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 177. Beauty and barber shops (SIC 723, 724): Indexes of output per hour and related measures, 1972-94  
(1967=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1972	85.3	89.9	81.8	96.7	90.8
1973	81.8	88.7	80.2	98.1	92.5
1974	82.6	85.0	78.6	92.7	90.1
1975	80.2	82.0	73.5	91.6	88.6
1976	77.3	79.2	71.1	92.0	88.8
1977	83.0	84.2	78.8	92.8	91.2
1978	88.0	88.8	81.0	94.1	93.3
1979	89.4	88.0	81.3	91.0	92.4
1980	85.7	84.3	79.8	93.1	94.7
1981	91.0	88.8	77.1	94.7	87.0
1982	91.2	88.5	75.5	92.8	87.3
1983	102.4	98.8	88.8	94.8	90.5
1984	98.8	94.1	87.4	90.5	89.9
1985	94.6	94.8	80.8	98.0	90.0
1986	98.3	98.4	94.4	98.0	97.9
1987	100.0	100.0	100.0	100.0	100.0
1988	98.8	98.3	104.1	107.8	105.9
1989	101.2	102.9	108.4	105.1	103.4
1990	97.4	98.7	104.0	108.8	105.4
1991	95.0	95.4	103.1	108.5	108.0
1992	101.4	100.3	110.4	108.9	110.1
1993	98.6	97.4	108.9	110.5	111.8
1994	102.1	101.7	109.9	107.6	108.1
<b>Average annual percent change:</b>					
1972-94	.8	.8	1.4	.8	.8
1990-94	1.2	.8	1.4	.2	.8

<sup>1</sup> All persons include paid employees and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the

Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 178. Beauty shops (SIC 723): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1972	89.0	91.4	71.8	80.7	78.8
1973	85.9	88.1	70.5	82.1	80.1
1974	85.8	86.0	68.9	80.2	80.1
1975	81.0	80.2	65.3	80.7	81.5
1976	78.3	76.8	63.1	82.7	82.3
1977	82.8	82.8	70.7	85.4	85.3
1978	88.7	88.4	75.1	88.8	88.3
1979	88.4	87.9	76.7	85.8	87.3
1980	87.9	85.2	75.8	88.2	88.0
1981	94.9	90.9	74.3	78.3	81.8
1982	94.4	88.1	73.5	77.9	83.4
1983	103.5	97.7	85.4	82.5	87.4
1984	98.5	95.3	88.8	88.2	91.1
1985	96.1	95.8	89.5	94.2	94.5
1986	98.9	98.7	94.0	97.0	97.2
1987	100.0	100.0	100.0	100.0	100.0
1988	95.1	97.2	104.4	109.8	107.4
1989	99.6	101.9	107.9	108.3	108.0
1990	98.8	98.8	105.2	108.7	108.7
1991	94.8	93.3	104.4	110.1	108.4
1992	99.7	99.8	112.8	113.0	112.8
1993	95.9	96.0	111.2	116.0	115.8
1994	100.0	100.8	112.4	112.4	111.5
<b>Average annual percent change:</b>					
1972-94	.5	.4	2.1	1.5	1.8
1980-94	.8	.8	1.7	.8	1.1

<sup>1</sup> All persons include paid employees and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the

Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

**Table 179. Automotive repair shops (SIC 753): Indexes of output per hour and related measures, 1972-94  
(1987=100)**

Year	Output per hour of all persons <sup>1</sup>	Output per person	Output	Hours of all persons	All persons
<b>Index:</b>					
1972	108.7	111.1	58.2	53.8	52.4
1973	106.3	114.3	62.2	58.9	54.4
1974	113.3	118.0	65.3	57.7	58.3
1975	108.8	109.2	65.0	61.0	59.5
1976	109.0	111.8	68.6	62.9	61.4
1977	104.5	106.1	70.0	67.0	68.0
1978	105.5	106.7	74.3	70.5	66.7
1979	105.0	107.8	78.5	74.8	73.0
1980	100.4	102.2	75.0	74.7	73.4
1981	97.8	98.1	72.3	73.8	73.7
1982	91.7	92.2	71.7	78.2	77.7
1983	98.8	91.0	75.9	84.5	83.4
1984	91.7	92.4	83.2	90.7	90.0
1985	98.4	100.1	96.2	98.8	98.2
1986	98.2	97.9	96.2	100.1	98.3
1987	100.0	100.0	100.0	100.0	100.0
1988	105.7	105.8	108.4	102.5	102.6
1989	108.2	109.8	113.2	104.8	103.3
1990	107.0	108.6	112.8	105.4	103.9
1991	98.8	99.3	102.4	103.8	103.1
1992	103.4	104.9	110.7	107.1	105.8
1993	103.7	105.4	115.1	111.0	109.2
1994	111.6	116.1	123.2	110.5	106.2
<b>Average annual percent change:</b>					
1972-94	.1	.2	3.5	3.3	3.3
1980-94	1.1	1.7	2.2	1.2	.5

<sup>1</sup> All persons include paid employees, unpaid family workers, and the self-employed.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the

Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

## Part II. Multifactor Productivity Trends for Selected Industries

In multifactor productivity measures, output is related to combined inputs of labor, capital, and intermediate purchases. The relationship between multifactor productivity and labor productivity (in which output is related only to labor input) is shown in table 180 for 10 selected industries.

Multifactor productivity is equal to output per hour minus the effects of changes in capital per hour and intermediate purchases per hour. These effects are measured as the change in the ratio of nonlabor inputs to labor inputs, weighted by the nonlabor input's share in the total cost of output. The capital effect, for example, is the change in the capital-labor ratio weighted by capital's share in the total cost of output. Both the capital effect and the intermediate purchases effect are usually positive in the long run, and as a result, labor productivity growth is generally higher than multifactor productivity growth over long periods of time, as seen in chart 2. Although multifactor productivity is free of these effects of changes in other inputs relative to labor, it is still influenced by factors such as economies of scale, capacity utilization, and skill and effort of the work force as well as technological change.

Tables 181-200 present indexes of multifactor productivity, single factor productivity (where output is related to each single factor alone), and indexes of output, combined inputs, and inputs of labor, capital, and intermediate purchases separately. Annual data on the aggregate value of output and the costs of each input are available upon request for each of these industries.

Updates of these multifactor productivity measures to 1994 were not completed in time for publication in this bulletin. When these updates are completed, the measures will be published through 1994 in a special report later this year. The productivity and related measures through 1992 in this bulletin reflect historical revisions to output and employee hours that were made after the publication of last year's bulletin. Most of the output measures underwent minor revisions so they would be consistent with the new methods used to generate output for the labor productivity measures presented in part I. Similarly, most of the hours measures were revised to a small degree so they would be identical to those used in the corresponding labor productivity measures. (See appendix A for further information.)

**Table 180. Multifactor productivity growth and its relationship to output per hour for selected industries, 1958-82**  
(Average annual percent change)<sup>1</sup>

Industry	Multifactor productivity	equals	Output per hour	minus	Capital effect <sup>2</sup>	minus	Intermediate purchases effect <sup>3</sup>
Cotton and synthetic broadwoven fabrics <sup>4</sup> .....	0.5		3.1		0.4		2.1
Household furniture .....	.7		1.9		.3		.9
Tires and inner tubes .....	2.3		3.8		3		1.1
Footwear .....	-1.2		.3		.5		1.0
Steel .....	1.6		3.2		.0		1.5
Metal stampings <sup>5</sup> .....	.3		1.2		.2		.8
Farm and garden machinery .....	.5		1.7		.3		.9
Refrigeration and heating equipment <sup>6</sup> .....	1.4		1.5		.1		.0
Motor vehicles and equipment .....	1.3		3.0		.1		1.8
Railroad transportation .....	4.0		5.9		.5		1.4

<sup>1</sup>Data on the average annual percent change are based on compound rates of change. Each measure presented in this table is computed independently. Therefore, output per hour minus the capital effect minus the intermediate purchases effect may not exactly equal multifactor productivity.

<sup>2</sup>The capital effect is the change in capital relative to labor over the given time period weighted by the share of capital in the total cost of output.

<sup>3</sup>The intermediate purchases effect is the change in intermediate purchases relative to labor over the given time period weighted by the share of intermediate purchases in the total cost of output.

<sup>4</sup>Measure begins in 1972.

<sup>5</sup>Measure begins in 1963.

<sup>6</sup>Measure begins in 1967.

### New industry measure

*Refrigeration and heating equipment (SIC 3585).* Between 1967 and 1992, multifactor productivity in the refrigeration and heating equipment industry rose at an average annual rate of 1.4 percent. The output of establishments in this industry, which manufactures air conditioners, refrigeration equipment and systems, electric heat pumps, furnaces, refrigerated display cases, soda fountains, and beer dispensers, rose 3.1 percent per year. In the same period combined inputs increased 1.6 percent per year. Labor productivity in refrigeration and heating equipment manufacturing increased at a rate of 1.5 percent from 1967 to 1992, nearly the same rate as multifactor productivity growth. These two rates are similar because both the capital effect and intermediate purchases effect were negligible at 0.1 percent and 0.0 percent, respectively, although year-to-year movements were often substantial. (Each of these effects is measured as the change in the ratio of the input to labor multiplied by

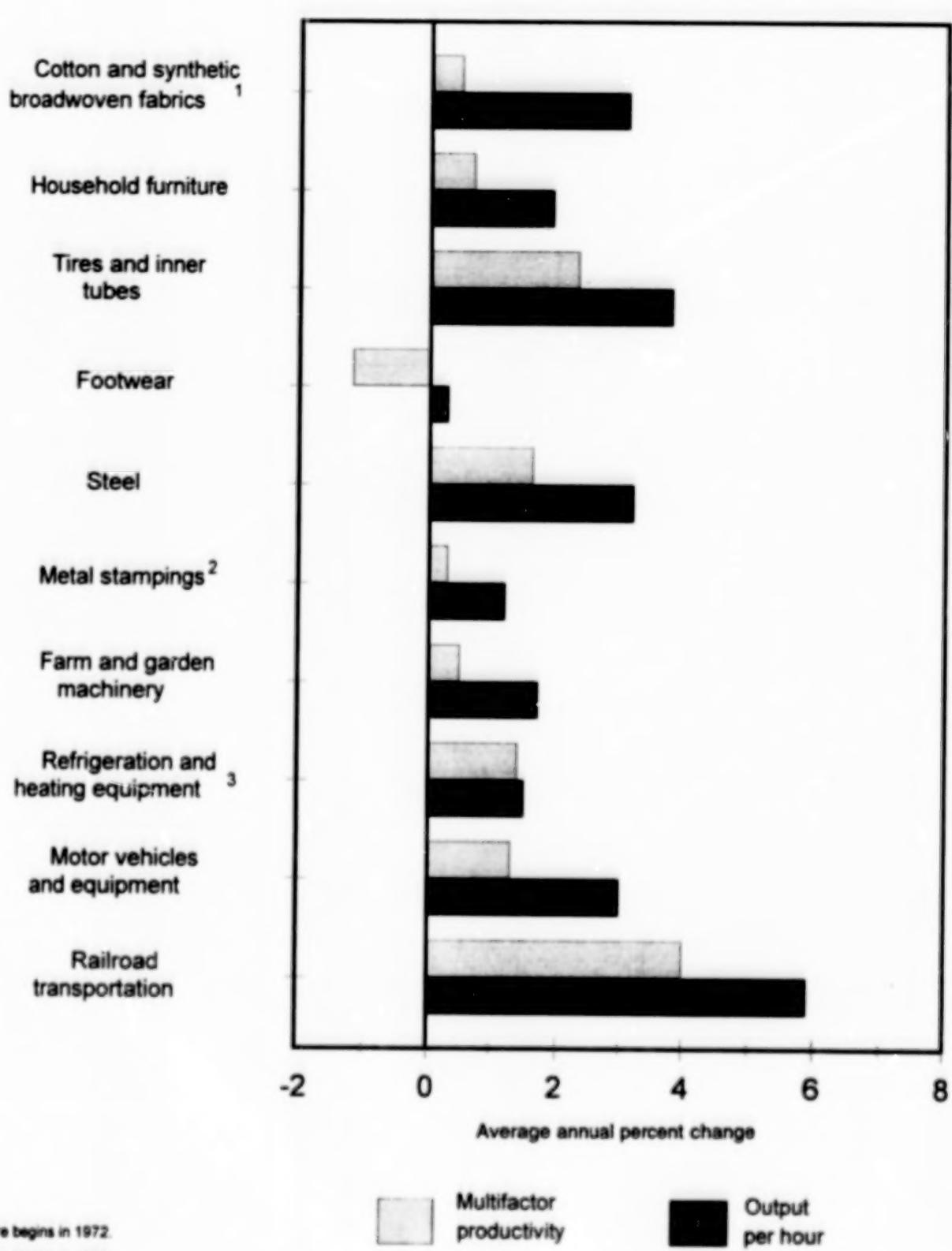
the share of the input in the total cost of output.)

This industry exports a significant portion of its products. For many establishments international sales represent as much as 35 percent of total revenues; the leading destinations for these sales are Canada and Mexico.

The refrigeration and heating equipment industry has developed substitutes for a group of important intermediate inputs in the production process. Chlorofluorocarbons (CFC's) were phased out in legislation due to the link between them and ozone depletion. The industry had to allocate a substantial amount of resources to the transition away from CFC's; this may have dampened multifactor productivity growth in recent years, as some of those resources could otherwise have been devoted to productivity improvement.

Additional information on multifactor productivity growth in the refrigeration and heating equipment industry can be found in a forthcoming article in the *Monthly Labor Review*.

Chart 2. Multifactor productivity and output per hour in 10 industries, 1958-92



<sup>1</sup> Measure begins in 1972.

<sup>2</sup> Measure begins in 1963.

<sup>3</sup> Measure begins in 1967.

Note: Average annual percent change using compound rate formula.

**Table 181. Cotton and synthetic broadwoven fabrics (SIC 221, 222): Multifactor and related productivity indexes,<sup>1</sup> 1972-82  
(1987=100)**

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1972	93.5	94.9	94.8	97.5
1973	91.7	95.1	95.7	114.3
1974	95.8	95.0	94.2	99.9
1975	97.1	95.1	92.3	99.2
1976	94.4	95.1	94.5	100.6
1977	95.8	75.4	113.0	100.8
1978	95.1	70.5	101.0	97.0
1979	93.4	75.6	108.2	98.5
1980	95.0	78.4	106.8	108.9
1981	92.0	80.7	101.8	98.2
1982	95.8	85.5	87.1	92.2
1983	95.1	82.8	99.7	97.5
1984	95.4	81.1	98.8	97.4
1985	93.8	94.8	98.9	94.7
1986	97.1	101.1	93.7	98.2
1987	100.0	100.0	100.0	100.0
1988	95.0	100.0	99.0	93.3
1989	94.0	103.9	99.2	95.0
1990	98.8	105.1	98.2	98.5
1991	100.7	113.8	98.2	98.5
1992	98.3	118.4	104.8	98.0
Average annual percent change:				
1972-82	.5	3.1	.0	-.5
1973-82	.4	3.8	.4	-1.3

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor

Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the U.S. Department of Agriculture; the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

**Table 182. Cotton and synthetic broadwoven fabrics (SIC 221, 222): Output and input indexes,<sup>1</sup> 1972-82  
(1987=100)**

Year	Output	Combined input	Hours	Capital	Intermediate purchases
Index:					
1972	93.1	112.0	152.8	94.7	101.3
1973	93.5	97.7	154.3	92.7	78.4
1974	93.5	103.2	147.5	93.9	93.5
1975	93.8	101.8	134.4	95.2	93.4
1976	95.5	105.4	150.8	95.2	93.8
1977	110.7	115.8	146.8	98.0	106.8
1978	99.9	112.1	141.8	98.9	103.0
1979	107.3	114.9	141.8	99.2	107.1
1980	107.3	108.4	128.9	100.5	98.5
1981	104.4	113.5	129.4	102.6	102.8
1982	90.4	100.8	106.8	103.9	98.6
1983	103.1	107.3	111.1	103.4	103.0
1984	100.8	106.5	110.4	103.9	103.3
1985	93.8	98.7	97.8	104.2	97.8
1986	95.9	98.8	94.9	102.3	98.7
1987	100.8	100.0	100.0	100.0	100.0
1988	97.5	101.8	97.5	98.5	104.5
1989	98.5	98.5	92.9	97.3	101.8
1990	92.2	92.8	86.3	95.8	95.4
1991	92.2	91.8	81.0	93.9	95.2
1992	95.9	87.8	81.0	91.7	107.7
Average annual percent change:					
1972-82	-2	-7	-3.1	-2	3
1973-82	.4	.0	-3.3	-1	1.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's

Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the U.S. Department of Agriculture; the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 183. Household furniture (SIC 251): Multifactor and related productivity indexes,<sup>1</sup> 1970-82  
(1987=100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1970	95.3	72.2	91.9	92.8
1971	97.7	74.8	96.4	98.9
1972	92.7	70.9	105.3	98.8
1973	95.7	80.8	102.4	102.0
1974	95.8	79.9	97.2	103.0
1975	95.6	82.1	74.5	97.8
1976	95.5	84.3	92.4	100.8
1977	95.8	88.4	97.2	102.1
1978	95.3	80.0	87.1	100.0
1979	95.5	80.1	92.9	100.0
1980	96.0	80.2	95.8	103.0
1981	95.3	84.1	97.1	104.8
1982	95.9	84.8	77.3	103.0
1983	95.5	81.5	95.8	105.8
1984	97.7	84.5	90.1	101.1
1985	95.7	80.5	98.3	98.8
1986	97.9	88.2	94.5	98.7
1987	100.0	100.0	100.0	100.0
1988	95.5	88.3	97.7	100.0
1989	96.0	101.9	98.1	97.8
1990	90.4	104.3	95.4	98.3
1991	95.0	108.8	91.7	95.3
1992	102.0	110.2	98.8	99.4
Average annual percent change:				
1988-92	.7	1.8	.9	.2
1973-82	3	1.7	-1.4	-1

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the International Sleep Products Association, the Bureau of the Census, and the Bureau of Labor Statistics.

Hours based on data from the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 184. Household furniture (SIC 251): Output and input indexes, 1970-82  
(1987=100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1970	95.2	95.2	95.3	75.3	74.7
1971	74.4	84.8	95.8	78.0	80.1
1972	87.8	94.7	111.1	82.4	90.7
1973	95.0	97.2	115.4	90.8	91.2
1974	95.2	95.8	105.7	95.8	92.7
1975	72.7	81.1	95.5	87.1	74.5
1976	82.2	87.8	87.5	95.1	81.8
1977	89.5	92.6	100.9	97.2	87.8
1978	95.4	98.1	107.2	98.3	93.8
1979	95.8	95.2	105.2	101.3	73.3
1980	95.0	95.5	94.4	101.4	95.4
1981	95.3	95.9	93.9	101.4	94.2
1982	77.8	86.3	82.1	100.7	75.5
1983	95.3	95.8	90.2	90.8	92.3
1984	90.4	92.5	88.7	100.3	89.4
1985	95.5	92.5	94.7	100.2	94.8
1986	93.7	95.7	95.4	98.2	94.8
1987	100.0	100.0	100.0	100.0	100.0
1988	95.5	95.4	95.5	101.2	98.0
1989	95.6	100.8	87.5	101.5	101.8
1990	95.4	95.0	92.4	101.1	98.5
1991	91.9	93.8	95.8	100.2	98.4
1992	95.5	94.8	87.5	98.9	97.1
Average annual percent change:					
1988-92	2.2	1.8	.9	3.2	2.0
1973-82	2	-1	-1.4	-1	-1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the International Sleep Products Association, the Bureau of the Census, and the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S.

Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census; and the Bureau of Labor Statistics.

Table 185. Tires and inner tubes (SIC 301): Multifactor and related productivity indexes,<sup>1</sup> 1970-82  
(1967=100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
<b>Index:</b>				
1970	99.2	91.7	87.4	92.8
1971	90.3	88.8	82.9	82.3
1972	91.5	97.7	92.9	92.9
1973	91.0	98.0	94.8	92.9
1974	90.8	94.8	82.3	82.3
1975	97.5	94.1	92.4	92.2
1976	99.9	98.2	96.7	92.2
1977	98.0	98.5	71.9	88.3
1978	98.3	94.3	71.4	71.1
1979	98.7	93.9	71.3	72.8
1980	98.2	93.7	88.1	78.2
1981	74.0	70.0	88.0	78.7
1982	78.4	76.2	67.2	94.8
1983	94.4	91.4	78.1	98.8
1984	99.0	98.8	94.3	97.8
1985	98.5	98.3	88.1	98.1
1986	91.8	92.8	87.2	93.1
1987	100.0	100.0	100.0	100.0
1988	98.8	102.9	105.1	98.0
1989	100.3	103.8	103.4	97.5
1990	100.0	103.0	98.2	100.2
1991	98.0	102.4	98.5	98.4
1992	104.8	107.8	104.2	103.8
Average annual percent change:				
1980-82	2.3	3.8	1.8	1.9
1973-82	2.9	3.5	2.5	2.8

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association, the Bureau of the Census, and the Bureau of Labor Statistics.

Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investors' Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 186. Tires and inner tubes (SIC 301): Output and Input Indexes, 1970-82  
(1967=100)

Year	Output	Combined input	Hours	Capital	Intermediate purchases
<b>Index:</b>					
1970	79.1	139.1	102.8	137.7	120.8
1971	98.7	147.0	108.8	141.3	140.1
1972	98.8	157.5	107.0	144.8	150.7
1973	97.7	160.1	174.4	151.2	160.2
1974	99.0	166.5	160.7	168.9	157.3
1975	95.7	148.0	158.4	163.5	137.8
1976	95.1	142.0	143.8	162.9	134.8
1977	104.8	168.8	175.8	148.4	151.0
1978	101.5	148.8	157.0	142.1	148.7
1979	98.3	141.1	163.7	137.8	139.5
1980	78.7	112.5	128.4	132.1	108.8
1981	92.4	111.3	117.8	124.5	108.4
1982	77.9	98.4	108.2	116.0	92.1
1983	93.8	90.0	102.7	107.0	94.4
1984	93.6	108.5	108.0	102.4	110.3
1985	98.5	104.5	103.8	103.8	103.0
1986	98.8	98.1	97.1	103.1	98.8
1987	100.0	100.0	100.0	100.0	100.0
1988	103.0	103.4	100.1	98.0	107.3
1989	103.4	103.1	98.7	100.0	100.1
1990	100.2	100.2	97.3	104.2	100.0
1991	93.8	95.7	91.8	105.8	94.4
1992	104.4	99.8	98.8	100.2	100.8
Average annual percent change:					
1980-82	2.3	.4	-3	1.1	.9
1973-82	2.9	-2.5	-3.1	-2.1	-2.2

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association, the Bureau of the Census, and the Bureau of Labor Statistics. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal

Revenue Service, U.S. Department of the Treasury; Moody's Investors' Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 187. Footwear (SIC 314): Multifactor and related productivity indexes,<sup>1</sup> 1970-82  
(1967=100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
<b>Index:</b>				
1970	117.0	93.1	179.2	117.0
1971	116.3	95.0	174.3	116.1
1972	115.1	92.9	176.5	114.1
1973	113.1	90.7	188.8	116.3
1974	109.2	88.5	147.1	111.5
1975	109.0	88.6	141.7	109.5
1976	111.8	94.8	152.9	111.8
1977	110.8	94.8	147.7	110.7
1978	112.3	97.0	148.5	111.9
1979	116.5	94.5	146.0	121.8
1980	108.2	93.5	140.8	108.2
1981	103.1	90.3	136.1	102.2
1982	108.4	98.7	129.3	104.3
1983	104.3	97.2	124.5	102.0
1984	107.4	98.8	115.3	102.7
1985	98.8	100.3	105.0	98.3
1986	97.7	101.8	97.9	95.8
1987	100.0	100.0	100.0	100.0
1988	100.5	102.3	102.8	99.3
1989	95.5	100.8	97.4	92.8
1990	95.9	92.8	98.9	92.8
1991	95.1	93.1	93.0	97.4
1992	95.9	93.3	94.2	93.1
<b>Average annual percent change:</b>				
1968-82	-1.2	.3	-2.8	-1.5
1973-82	-1.4	.1	-3.3	-1.7

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 188. Footwear (SIC 314): Output and Input Indexes, 1970-82  
(1967=100)

Year	Output	Combined input	Hours	Capital	Intermediate purchases
<b>Index:</b>					
1970	245.0	210.1	284.0	137.2	210.2
1971	222.2	198.8	244.3	133.2	201.7
1972	230.5	200.2	248.0	130.8	202.1
1973	213.7	188.0	226.8	123.7	185.4
1974	197.8	181.2	220.9	134.5	177.4
1975	184.8	188.4	197.1	130.3	168.8
1976	191.7	171.5	202.8	125.4	171.7
1977	185.7	167.6	198.0	125.7	167.7
1978	185.8	165.3	191.4	125.0	165.9
1979	174.8	149.9	194.7	120.4	143.3
1980	160.0	156.2	180.7	120.0	158.2
1981	163.7	159.0	181.2	121.2	160.2
1982	160.1	146.8	188.5	123.0	162.8
1983	147.7	141.8	182.0	118.8	143.4
1984	132.1	127.8	123.8	114.8	128.8
1985	115.9	117.8	115.5	110.4	120.4
1986	102.7	105.1	100.8	104.8	107.2
1987	100.0	100.0	100.0	100.0	100.0
1988	98.3	98.8	97.1	98.8	100.0
1989	91.9	95.2	91.1	94.4	99.0
1990	79.2	92.2	85.4	91.1	95.7
1991	72.0	81.7	77.3	86.7	82.4
1992	70.2	81.7	75.2	83.4	84.5
<b>Average annual percent change:</b>					
1968-82	-3.7	-6.6	-4.0	-3.9	-3.3
1973-82	-3.7	-4.3	-3.8	-3.8	-4.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's

Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

**Table 189. Steel (SIC 331): Multifactor and related productivity indexes,<sup>1</sup> 1970-82  
(1987=100)**

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
<b>Index:</b>				
1970	67.2	83.8	76.1	78.4
1971	68.3	85.0	72.5	78.3
1972	69.7	85.8	80.2	78.9
1973	75.8	84.2	88.0	81.2
1974	80.8	87.8	103.8	87.4
1975	69.7	85.3	78.7	77.4
1976	72.7	81.7	85.0	82.7
1977	73.3	81.8	84.8	81.8
1978	78.5	85.1	88.4	83.7
1979	75.8	85.9	87.4	81.1
1980	73.6	85.4	84.9	78.1
1981	72.1	85.3	82.5	78.2
1982	85.6	85.8	85.0	74.6
1983	82.1	73.8	70.3	88.2
1984	85.2	81.3	81.4	88.3
1985	85.7	85.8	81.7	88.3
1986	85.5	85.7	82.4	88.2
1987	100.0	100.0	100.0	100.0
1988	108.5	113.5	123.8	108.8
1989	102.5	108.5	120.8	94.5
1990	104.3	110.5	124.4	98.1
1991	98.0	108.2	118.5	98.2
1992	105.8	117.7	128.2	94.9
Average annual percent change:				
1988-92	1.8	3.2	2.0	1
1973-82	1.8	3.2	1.4	.8

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Hours based on data from the

American Iron and Steel Institute and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

**Table 190. Steel (SIC 331): Output and input indexes, 1970-82  
(1987=100)**

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
<b>Index:</b>					
1970	115.5	171.8	215.8	153.7	147.3
1971	108.8	160.5	195.8	151.2	138.2
1972	118.0	169.2	198.0	147.2	152.4
1973	138.1	182.7	215.2	143.8	170.0
1974	145.5	190.0	215.2	140.2	168.8
1975	110.5	150.8	186.2	140.4	142.8
1976	117.0	158.7	188.7	141.0	141.4
1977	118.8	162.0	192.3	140.4	145.8
1978	129.2	168.8	198.6	138.3	154.3
1979	132.3	174.5	200.9	138.8	163.2
1980	113.3	154.0	173.3	138.4	143.2
1981	121.3	168.0	175.0	131.2	161.4
1982	79.1	115.3	130.5	127.5	106.0
1983	88.0	104.8	116.5	122.4	97.8
1984	98.2	111.7	117.1	117.0	107.8
1985	91.7	105.8	105.9	112.3	105.9
1986	87.8	98.2	87.9	106.5	98.4
1987	100.0	100.0	100.0	100.0	100.0
1988	116.2	107.9	104.2	96.8	114.1
1989	112.2	105.5	103.4	92.9	118.6
1990	113.0	108.3	102.3	98.8	117.6
1991	103.7	104.7	95.9	98.9	116.0
1992	100.0	103.2	92.8	98.4	114.8
Average annual percent change:					
1988-92	.9	.7	-2.2	-1.1	.8
1973-82	-1.2	-3.0	-4.3	-2.6	-4.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Hours based on data from the American Iron and Steel Institute and the Bureau of Labor

Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 191. Metal stampings (SIC 3465, 3466, 3469): Multifactor and related productivity indexes,<sup>1</sup> 1970-82  
(1957=100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
<b>Index:</b>				
1970	92.5	73.8	100.4	104.7
1971	95.9	81.5	105.2	105.5
1972	90.1	84.4	118.0	104.6
1973	99.9	83.8	125.7	104.9
1974	92.2	82.5	108.4	107.1
1975	90.9	80.8	99.5	99.0
1976	95.9	84.2	108.8	101.0
1977	99.2	88.8	118.3	103.4
1978	99.8	88.0	116.7	103.8
1979	98.1	87.7	111.7	104.3
1980	98.8	84.2	93.5	108.3
1981	98.0	85.4	91.3	108.0
1982	94.8	83.4	90.9	105.4
1983	101.0	91.0	97.7	108.5
1984	103.5	98.3	114.7	106.3
1985	98.8	91.9	100.3	101.4
1986	97.3	85.8	102.1	97.8
1987	100.0	100.0	100.0	100.0
1988	101.9	100.5	97.1	102.8
1989	101.8	98.5	93.7	102.8
1990	98.3	83.0	93.8	99.3
1991	95.4	82.6	78.1	98.9
1992	104.7	108.8	92.4	104.5
<b>Average annual percent change:</b>				
1983-82	.3	1.2	-3	-1
1973-82	.3	1.3	-1.8	.0

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Hours based on data from the Bureau of the

Census. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 192. Metal Stampings (SIC 3465, 3466, 3469): Output and input indexes, 1970-82  
(1957=100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
<b>Index:</b>					
1970	71.1	76.9	98.8	70.8	87.9
1971	75.2	77.8	92.3	70.8	71.1
1972	84.1	84.9	99.7	70.7	80.4
1973	92.5	92.7	110.4	73.8	88.2
1974	92.8	84.3	100.4	78.4	77.3
1975	98.0	74.8	84.3	78.0	88.7
1976	92.8	88.4	98.3	78.1	82.0
1977	94.1	94.9	108.8	78.9	91.0
1978	98.7	95.9	108.9	81.5	88.2
1979	92.7	83.5	105.8	83.0	88.8
1980	78.1	80.7	92.8	83.7	78.8
1981	78.3	79.9	91.8	85.8	78.5
1982	70.4	74.3	94.4	87.0	68.8
1983	82.9	85.1	92.2	88.9	77.2
1984	98.9	85.8	102.7	88.2	88.0
1985	98.8	88.2	108.4	88.8	88.8
1986	98.5	88.2	98.7	88.5	87.8
1987	100.0	100.0	100.0	100.0	100.0
1988	101.8	98.7	101.1	104.8	98.7
1989	98.5	97.9	101.1	108.2	98.8
1990	98.9	93.4	98.7	107.8	91.5
1991	94.3	88.4	91.0	108.0	87.0
1992	98.1	83.7	92.1	108.2	90.8
<b>Average annual percent change:</b>					
1983-82	1.5	1.3	.3	2.4	1.7
1973-82	.3	.1	-1.8	1.9	.3

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Hours based on data from the Bureau of the Census. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's

Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 193. Farm and garden machinery (SIC 352): Multifactor and related productivity indexes,<sup>1</sup> 1970-82  
(1957=100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
<u>Index:</u>				
1970	99.2	73.6	118.0	97.3
1971	91.7	79.1	120.9	98.7
1972	97.4	89.4	120.5	99.5
1973	100.2	92.7	147.8	99.5
1974	106.4	94.8	148.7	97.9
1975	100.2	94.2	134.3	99.0
1976	100.8	98.7	128.8	94.4
1977	102.4	97.8	131.7	99.8
1978	101.8	98.4	123.2	97.7
1979	104.4	98.2	143.7	98.8
1980	100.9	91.3	121.4	99.2
1981	99.2	93.4	118.0	98.2
1982	99.4	90.8	95.2	104.3
1983	99.3	98.6	98.4	102.3
1984	100.8	98.5	101.3	101.5
1985	99.3	92.7	90.7	103.9
1986	99.4	93.3	98.5	99.8
1987	100.0	100.0	100.0	100.0
1988	105.7	108.3	117.4	99.9
1989	107.2	110.7	124.1	98.1
1990	113.1	118.6	128.7	100.7
1991	109.3	113.0	128.7	99.2
1992	108.8	114.1	128.4	98.8
Average annual percent change:				
1980-82	.5	1.7	-1	.1
1973-82	.5	1.1	-7	.5

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output and hours based on data from the Bureau of the

Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 194. Farm and garden machinery (SIC 352): Output and input indexes, 1970-82  
(1957=100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
<u>Index:</u>					
1970	116.4	130.5	158.1	97.8	128.8
1971	116.7	127.2	147.8	98.5	131.8
1972	140.7	144.4	157.4	101.8	157.2
1973	168.1	167.7	181.3	113.7	188.8
1974	169.4	179.7	200.3	126.5	198.8
1975	177.4	177.0	188.3	132.1	190.7
1976	173.8	172.4	178.8	135.2	194.1
1977	179.9	175.8	183.9	136.8	197.7
1978	168.2	165.5	174.4	138.5	172.1
1979	200.8	192.1	204.2	139.8	209.8
1980	169.7	160.2	185.9	129.8	171.0
1981	159.8	160.9	171.0	135.2	168.9
1982	123.0	125.0	135.7	129.2	117.0
1983	107.0	112.3	120.8	121.0	104.8
1984	118.1	117.2	119.8	118.8	118.0
1985	101.2	105.1	108.1	111.8	100.3
1986	90.1	96.5	98.8	104.2	95.1
1987	100.0	100.0	100.0	100.0	100.0
1988	117.2	110.9	110.2	98.8	117.3
1989	121.2	113.1	109.5	97.7	120.5
1990	130.7	115.8	112.2	94.2	129.8
1991	115.7	105.9	102.4	99.9	116.8
1992	111.8	101.1	97.1	98.3	111.2
Average annual percent change:					
1980-82	.0	.1	-1.1	.8	.5
1973-82	-0.2	-2.8	-3.2	-1.4	-2.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S.

Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis; the U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 195. Refrigeration and heating equipment (SIC 3585): Multifactor and related productivity indexes.<sup>1</sup>

(1967=100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
<b>Index:</b>				
1970	79.9	95.7	93.1	79.2
1971	78.0	91.5	90.4	71.5
1972	80.2	101.0	99.9	81.2
1973	90.6	100.3	100.2	93.6
1974	95.8	105.4	99.5	94.9
1975	79.8	95.5	92.5	94.8
1976	87.8	98.4	93.9	98.5
1977	98.4	98.3	98.9	98.7
1978	100.4	98.3	102.0	100.5
1979	101.2	98.8	98.9	102.9
1980	95.5	95.7	93.6	102.7
1981	98.0	98.0	91.0	102.1
1982	98.7	98.3	90.8	104.4
1983	98.6	98.0	97.1	100.7
1984	98.8	100.1	100.1	99.5
1985	97.1	98.1	94.8	97.4
1986	95.8	95.8	93.0	98.4
1987	100.0	100.0	100.0	100.0
1988	103.3	104.0	108.0	102.1
1989	108.3	109.0	108.3	104.5
1990	99.7	108.3	94.7	98.8
1991	98.8	104.8	93.3	98.9
1992	104.3	107.8	101.6	103.8
<b>Average annual percent change:</b>				
1967-92	1.4	1.5	.9	1.8
1973-92	.7	.4	.1	1.1

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor

Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investors' Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 196. Refrigeration and heating equipment (SIC 3585): Output and input indexes, 1970-92  
(1967=100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
<b>Index:</b>					
1970	88.3	83.0	77.4	79.8	87.0
1971	88.0	87.2	74.3	84.8	84.7
1972	90.1	101.0	89.2	90.2	110.9
1973	101.7	112.2	101.4	101.5	121.4
1974	95.0	99.4	91.8	103.2	100.1
1975	81.3	78.8	71.9	97.8	72.5
1976	77.2	87.9	88.3	92.1	67.2
1977	91.2	92.7	92.7	94.1	92.4
1978	100.4	100.0	102.1	98.4	99.9
1979	100.8	99.7	102.1	102.0	98.1
1980	83.2	87.1	91.7	99.5	81.0
1981	88.5	91.3	83.3	98.4	87.7
1982	78.7	81.4	82.8	97.7	78.4
1983	82.5	86.4	86.0	94.7	81.9
1984	97.1	97.3	97.0	97.0	97.8
1985	94.4	97.2	88.3	99.8	88.9
1986	82.2	86.4	86.3	98.1	85.8
1987	100.0	100.0	100.0	100.0	100.0
1988	108.5	108.0	104.3	102.4	105.3
1989	114.3	107.5	104.9	105.5	108.4
1990	98.5	98.8	93.7	105.1	100.9
1991	94.8	95.0	90.5	101.8	94.9
1992	101.9	97.7	94.7	100.3	98.2
<b>Average annual percent change:</b>					
1967-92	3.1	1.8	1.8	2.2	1.8
1973-92	.0	-.7	-.4	-.1	-1.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's

Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 197. Motor vehicles and equipment (SIC 371): Multifactor and related productivity indexes,<sup>1</sup> 1970-82  
(1977=100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
<b>Index:</b>				
1970	81.4	57.0	88.3	103.9
1971	88.2	68.2	72.3	98.3
1972	98.7	67.5	79.3	101.6
1973	92.3	68.7	87.5	108.0
1974	91.8	68.7	71.8	110.7
1975	93.2	70.2	88.7	111.9
1976	98.5	76.1	88.4	112.3
1977	101.0	78.8	88.8	111.2
1978	100.7	78.4	88.6	111.4
1979	98.0	77.7	87.0	112.2
1980	98.3	71.8	82.2	105.8
1981	98.7	73.4	82.8	103.3
1982	98.8	78.7	88.5	103.3
1983	98.4	88.8	78.0	102.1
1984	98.5	91.1	101.3	101.7
1985	103.3	98.3	108.9	105.1
1986	98.1	88.1	100.1	98.5
1987	100.0	100.0	100.0	100.0
1988	103.5	103.2	108.2	102.8
1989	104.5	103.3	110.5	103.1
1990	98.7	102.4	100.2	97.2
1991	98.4	98.7	98.8	101.7
1992	98.4	104.3	98.9	98.2
Average annual percent change:				
1980-82	1.3	3.0	3.0	.0
1973-82	.3	2.2	.8	-.5

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Greater/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbook); the Bureau of the Census; and the Bureau of Labor Statistics.

Inc. (Ward's Automotive Yearbook); the Bureau of the Census; and the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor Statistics and company records. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 198. Motor vehicles and equipment (SIC 371): Output and Input Indexes, 1970-82  
(1977=100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
<b>Index:</b>					
1970	80.9	82.5	88.3	90.4	48.0
1971	83.9	75.0	86.5	98.4	98.0
1972	90.9	78.8	103.5	98.1	98.8
1973	93.4	87.1	117.0	91.9	78.5
1974	97.2	72.4	102.3	93.8	93.7
1975	92.1	88.8	88.4	90.4	98.5
1976	78.3	78.5	104.3	87.8	98.7
1977	91.1	90.2	114.2	91.3	91.9
1978	94.9	94.2	118.5	98.8	98.2
1979	87.8	88.5	112.7	100.7	78.1
1980	98.8	70.3	87.7	101.0	98.5
1981	95.5	73.0	89.2	104.8	93.4
1982	95.0	98.8	78.2	108.2	98.1
1983	77.1	88.8	88.8	97.8	78.5
1984	93.9	94.4	103.1	92.7	98.3
1985	102.4	97.2	105.3	93.9	98.5
1986	98.9	98.8	101.9	98.8	98.4
1987	100.0	100.0	100.0	100.0	100.0
1988	104.8	101.3	101.8	98.7	101.9
1989	105.2	100.7	101.8	98.2	102.0
1990	98.5	97.8	94.3	98.3	98.3
1991	98.0	98.4	91.0	98.2	98.5
1992	97.9	99.5	93.9	98.0	101.8
Average annual percent change:					
1980-82	4.1	2.8	1.0	1.0	4.0
1973-82	1.0	.7	-1.2	.4	1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Greater/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbook); the Bureau of the Census; and the Bureau of Labor Statistics. Hours based on data from the Bureau of

Labor Statistics and company records. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 199. Railroad transportation (SIC 4011): Multifactor and related productivity indexes,<sup>1</sup> 1970-82  
(1967=100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1970	52.3	36.2	67.5	79.8
1971	53.9	38.0	67.5	79.8
1972	58.5	42.1	72.1	85.4
1973	64.1	46.5	80.4	91.0
1974	63.2	45.5	80.3	90.0
1975	59.0	43.3	70.8	84.1
1976	62.8	48.0	77.4	84.8
1977	65.3	49.1	82.8	88.8
1978	67.3	51.8	85.3	85.7
1979	68.9	54.3	85.1	84.8
1980	67.9	54.0	85.1	81.9
1981	67.7	55.1	83.5	81.0
1982	68.6	56.3	75.0	81.8
1983	69.2	72.0	82.0	82.2
1984	68.3	70.0	91.7	85.1
1985	67.4	81.5	88.8	85.1
1986	91.2	89.2	80.5	94.4
1987	100.0	100.0	100.0	100.0
1988	105.8	108.4	107.4	101.4
1989	108.7	114.6	111.3	102.5
1990	119.8	118.5	114.3	108.8
1991	117.5	127.8	118.3	108.9
1992	124.8	139.8	123.5	108.3
Average annual percent change:				
1968-82	4.0	5.0	3.2	1.2
1973-82	3.8	8.0	2.3	1.0

<sup>1</sup> The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission, the Association of American Railroads, and the National Railroad Passenger Corporation. Hours based on data from the Interstate Commerce Commission. Capital based on data from the Interstate

Commerce Commission; the National Railroad Passenger Corporation; the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Interstate Commerce Commission, the Association of American Railroads, the National Railroad Passenger Corporation, the Edison Electric Institute, and the Bureau of Labor Statistics.

Table 200. Railroad transportation (SIC 4011): Output and input indexes, 1970-82  
(1967=100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1970	88.3	188.8	244.2	130.8	110.7
1971	88.8	181.0	225.0	126.8	110.2
1972	91.0	155.8	216.1	126.2	108.8
1973	98.8	155.3	214.0	123.9	108.5
1974	97.8	154.8	214.8	121.8	108.7
1975	94.9	143.9	195.9	119.9	101.0
1976	91.4	148.0	194.9	118.1	107.8
1977	98.4	147.7	198.2	116.7	111.1
1978	98.8	146.5	191.2	115.8	113.7
1979	101.1	148.8	188.3	114.7	118.5
1980	97.3	143.3	178.3	114.3	118.8
1981	95.1	140.4	172.5	113.8	117.4
1982	93.8	122.1	143.8	111.7	102.4
1983	98.2	111.2	123.9	108.8	98.7
1984	97.3	112.7	124.7	108.1	101.3
1985	93.7	107.2	115.0	104.4	98.5
1986	92.9	101.9	104.1	102.7	98.4
1987	100.0	100.0	100.0	100.0	100.0
1988	105.0	98.2	98.9	97.8	100.8
1989	108.6	97.2	93.0	95.8	104.0
1990	107.8	94.9	91.0	93.8	101.1
1991	107.0	91.1	83.7	92.0	101.0
1992	111.4	90.2	79.8	90.2	101.0
Average annual percent change:					
1968-82	1.3	-2.5	-4.3	-1.8	-1
1973-82	.8	-3.9	-6.1	-1.7	-4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission, the Association of American Railroads, and the National Railroad Passenger Corporation. Hours based on data from the Interstate Commerce Commission. Capital based on data from the Interstate Commerce Commission; the National Railroad Passenger Corporation;

the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Interstate Commerce Commission, the Association of American Railroads, the National Railroad Passenger Corporation, the Edison Electric Institute, and the Bureau of Labor Statistics.

## **Part III. Labor Productivity Trends for Selected Federal Government Functions and the Measured Total**

### **Current developments**

Output per employee year was unchanged in fiscal year 1994 for the measured portion of the Federal Government. This reflected an increase of 1.0 percent in output and an increase of 0.9 percent in employee years. Counterbalancing most of the Federal Government, where employment has been shrinking, several of the larger organizations in the BLS measurement system, such as the Department of Justice, the U.S. courts, and the U.S. Postal Service showed slight employment increases in 1994.

The overall productivity measure included data from 255 organizations in 60 Federal agencies for fiscal year 1994. The organizations included over 2.0 million civilian employee years representing over 69 percent of the total Federal executive branch civilian labor force.

To better identify and understand the factors which affect Federal productivity, the 255 organizations are grouped into 24 functions based on similarity of tasks performed—for example, auditing, medical services, personnel, or regulation. Among the 24 functions, productivity changes ranged from an increase of 11.8 percent in finance and accounting to a decrease of 5.6 percent in personnel management. Fourteen of the functions experienced productivity increases in 1994.

The finance and accounting function is primarily comprised of organizations responsible for maintaining accounting records, processing payroll vouchers and invoices, and related activities. The productivity increase of 11.8 percent in 1994 reflects an increase in output of 3.3 percent and a decrease in employee years of 7.7 percent. The decrease in employee years is largely a reflection of buyouts and hiring freezes in this function. Automation and process efficiencies enabled these organizations to increase their output with fewer employees.

The productivity decrease of 5.6 percent in 1994 for personnel management reflects a decline in output of 8.4 percent and an accompanying drop in employee years of 2.9 percent. Organizations in this function are responsible for providing personnel services including recruitment, position classification, and employee development and counseling. Output was negatively affected by hiring freezes among many government agencies, which have sharply reduced the number of accessions and, at the same time, resulted in fewer separations. Reductions-in-force, early re-

tirements, and buyouts contributed to the decline in employee years in this function.

The U.S. Postal Service (USPS) is the largest of the 24 measured functions in terms of employees, representing nearly 37 percent of the employee years in the measurement system. Productivity decreased 0.8 percent as a result of an output gain of 2.8 percent and an even larger increase in employee years of 3.7 percent. Increased mail volume due to an improved economy resulted in a growth in output. The increase in staff was in response to increased mail and the emphasis on improved timeliness in mail delivery. This was accomplished through the hiring of more permanent full-time employees.

An analysis of the three major sectors in the measurement system based on employment, USPS (37 percent), Department of Defense (23 percent), and general government (40 percent), indicate that both the Postal Service and Department of Defense experienced productivity declines with decreases of 0.8 percent and 4.1 percent, respectively. General government showed an increase in productivity of 2.8 percent resulting from an increase in output of 1.5 percent and a decrease in employee years of 1.3 percent.

### **Recent trends**

In the measured portion of the Federal Government, productivity rose at an average annual rate of 0.4 percent from 1987 through 1994. Output increased annually at a rate of 0.6 percent while employee years increased 0.2 percent. Fifteen functions had gains in productivity while 9 experienced declines during this period. Electric power production and distribution increased the most, 6.0 percent, as a result of an increase in output of 1.9 percent and a decrease in employee years of 3.9 percent. General support services showed the largest decline—3.0 percent due to an increase in output of 0.7 percent and a gain in employee years of 3.9 percent. The postal service showed an average annual productivity increase of 0.9 percent, reflecting an output increase of 1.8 percent and an employment gain of 0.9 percent over this period.

### **Long-term trends**

Over the long term, 1967-94, productivity in the measured portion of the Federal Government rose at an average annual rate of 1.1 percent. (See chart 3.) This reflects an

average annual increase in output of 1.4 percent and an annual increase in employee years of 0.3 percent. The year-to-year productivity changes ranged from a high of 2.9 percent in 1977 to a low of -2.8 percent in 1991. Year-to-year changes in output ranged from an increase of 3.7 percent in 1968 to a decrease of 1.9 percent in 1991, the only decrease in output over the entire period, 1967-94. Annual rates of change in employee years ranged from an increase of 2.6 percent in 1968 to a drop of 1.3 percent in 1993.

Among the 24 functions, finance and accounting experienced the largest average annual increase over the long term, 3.8 percent, while electric power showed the greatest decline, 1.4 percent. Medical services was the only other function to experience a long-term decline (-0.1 percent). Fourteen functions showed productivity increases above the overall average of 1.1 percent.

The long-term productivity gains in finance and accounting of 3.8 percent reflect an average annual increase in output of 2.2 percent and an annual decrease in employee years of 1.5 percent. Implementation of new accounting and reporting systems over the years has helped to streamline accounting processes. In addition, electronic small purchasing and electronic fund transfers have cut much of the paperwork and resulted in more prompt payments on the accounts.

Electric power production and distribution registered the largest long-term decline in productivity, 1.0 percent. This was due to a small average annual increase in output of 0.4 percent and an annual increase in employee years of 1.4 percent. Organizations in this function are responsible for generating, transmitting, and selling electricity. Regulatory problems associated with delays in nuclear power production and dry weather conditions affecting the production of power for hydroelectric plants have contributed to the decline in productivity.

Productivity increased 1.0 percent annually in the postal service over the long term. This resulted from an average annual increase of 1.9 percent in output and an annual increase of 0.9 percent in employee years.

#### Compensation per employee year and unit labor costs

Compensation per employee year for the total measured portion of the Federal Government increased 2.2 percent in 1994. Compensation includes employee benefits as well as salaries and wages. Audit of operations experienced the largest gain in compensation per employee year with an increase of 11.0 percent, while the postal service showed a small decline of 0.7 percent as a result of hiring new employees at a lower wage scale and cutting back on overtime.

Over the long term, 1967-94, compensation per employee year for the overall measured portion increased 6.7 percent annually. Both library services and transportation and traffic management showed the largest average annual gain of 7.1 percent, whereas, procurement experienced the smallest gain of 4.9 percent.

Unit labor costs for the total measured portion of the Federal Government showed an increase of 2.2 percent in 1994. Personnel management showed the largest increase in unit labor costs of 14.6 percent, largely due to a decline in output of 8.4 percent and an increase in compensation costs due to buyouts and reductions-in-force. Finance and accounting experienced the largest decrease in unit labor cost of 7.5 percent. Eight functions showed declines in unit labor costs in 1994.

During the period, 1967-94, unit labor costs in the measured portion of the Federal Government increased, on average, 5.6 percent annually. Among functions, they ranged from 7.6 percent annually for electric power to 2.4 percent for finance and accounting.

With the completion of the fiscal year 1994 update, the program that measured Federal Government productivity has been terminated, due to reductions in the BLS budget. The support and interest of the participating agencies is greatly appreciated.

## Definitions of functional categories

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**Audit of operations:** Organizations responsible for reviewing, evaluating, and analyzing Federal programs and operations.

**Buildings, grounds, and equipment maintenance:** Organizations responsible for the construction, maintenance, repair, alteration, services, and security of Federal buildings, installations, equipment, or grounds.

**Education and training:** Organizations responsible for providing general or specialized education or training.

**Electric power production and distribution:** Organizations responsible for generating, transmitting, or selling electricity.

**Finance and accounting:** Organizations responsible for maintaining accounting records, processing payroll vouchers and invoices, and related activities.

**General support services:** Organizations performing overall administrative and supportive activities including automatic data processing, internal mail delivery, graphics, and planning.

**Information services:** Organizations responsible for preparing or distributing statistical, scientific, technical, or other information.

**Legal and judicial activities:** Organizations responsible for instituting proceedings in a court or administrative tribunal or rendering decisions in a judicial capacity.

**Library services:** Organizations responsible for providing research and reference services for Federal agencies, Congress, or the public.

**Loans and grants:** Organizations responsible for issuing research grants, making awards, offering various types of loans, and borrowing funds from the public.

**Medical services:** Organizations responsible for operating health care facilities and providing medical, hospital, dental, laboratory, or nursing services for disease prevention or treatment.

**Natural resources and environmental management:** Organizations responsible for developing or overseeing pro-

grams which affect natural resources or the environment.

**Personnel investigations:** Organizations responsible for conducting personnel security checks or criminal investigations of Federal employees.

**Personnel management:** Organizations responsible for providing personnel services including recruitment, position classification, employee development, and equal employment opportunity counseling.

**Postal service:** U.S. Postal Service which delivers mail and provides related services (SIC 4311).

**Printing and duplication:** Organizations responsible for printing or reproducing reports, manuals, circulars, or other documents.

**Procurement:** Organizations responsible for purchasing supplies, equipment, or services.

**Records management:** Organizations responsible for maintaining, classifying, storing, or searching records.

**Regulation—compliance and enforcement:** Organizations engaged in activities to ensure compliance with established rules and regulations.

**Regulation—rulemaking and licensing:** Organizations responsible for issuing licenses, permits, or other authorizations in government-controlled activities.

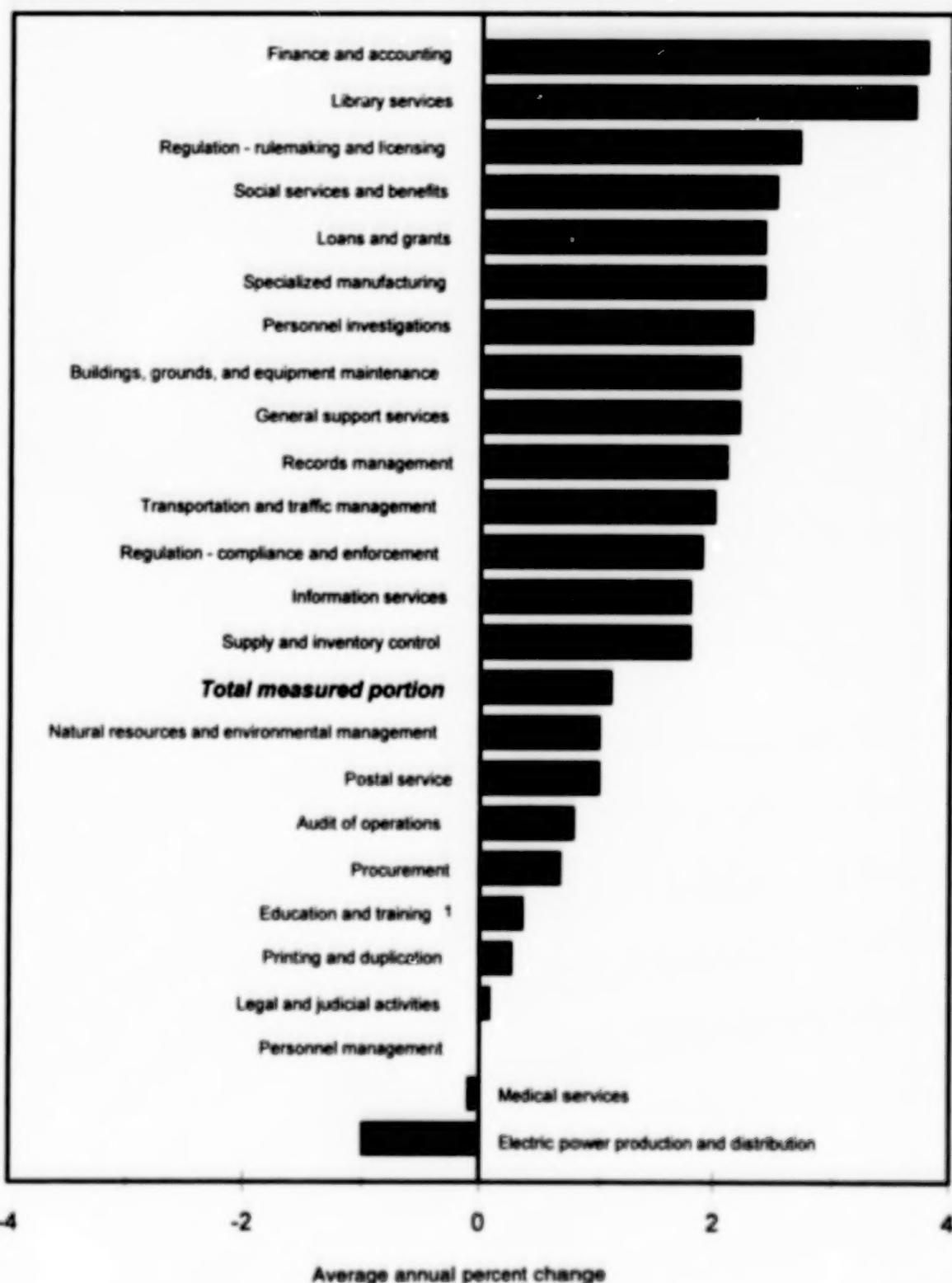
**Social services and benefits:** Organizations responsible for the payment of benefits or claims, or for improving the welfare of the public or a special group.

**Specialized manufacturing:** Organizations involved in the production of physical outputs such as helium, munitions, chemicals, and currency.

**Supply and inventory control:** Organizations responsible for distributing supplies and equipment and for the management of inventories.

**Transportation and traffic management:** Organizations responsible for moving or assisting in the movement of people or cargo.

**Chart 3. Output per employee year in the federal government by function and the total measured portion, fiscal years 1967-94**



<sup>1</sup> Measure begins in 1968.

NOTE: Average annual percent change using compound rate formula.

**Table 201. Federal Government-Total measured portion: Indexes of output per employee year and related data, 1967-94  
(1967=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	76.8	71.1	92.9	24.8	32.3
1968	77.4	72.6	95.3	26.0	33.6
1969	78.3	76.2	95.1	26.0	33.5
1970	78.8	76.4	95.9	31.1	38.1
1971	80.9	77.4	95.8	34.7	42.9
1972	81.4	77.8	95.2	37.3	45.7
1973	82.7	78.8	94.1	38.5	47.2
1974	83.3	78.9	94.8	42.7	51.3
1975	84.5	80.2	94.9	46.9	55.4
1976	85.0	80.9	94.0	51.8	60.3
1977	85.5	82.3	93.0	56.4	65.8
1978	85.0	84.2	93.8	50.3	67.0
1979	85.8	84.8	93.7	64.2	70.8
1980	92.5	87.3	94.4	69.5	75.1
1981	94.7	88.6	93.5	76.1	80.4
1982	95.1	89.8	93.3	81.1	84.4
1983	97.5	91.9	94.2	86.0	87.1
1984	97.5	93.9	95.2	86.9	91.1
1985	98.2	95.3	95.1	93.5	95.2
1986	98.8	95.8	95.8	96.3	98.5
1987	100.0	100.0	100.0	100.0	100.0
1988	100.8	101.0	100.3	106.3	108.5
1989	100.7	101.2	100.4	111.3	110.5
1990	102.9	103.5	100.6	117.8	114.4
1991	103.1	101.5	101.5	125.0	124.9
1992	102.8	102.8	101.8	133.0	132.0
1993	102.9	103.8	100.8	140.3	138.8
1994	102.9	104.8	101.8	143.4	139.5
<b>Average annual percent change:</b>					
1987-94	1.1	1.4	.3	6.7	5.8
1987-94	.4	.8	.2	6.3	4.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 202. Federal Government-Audit of operations: Indexes of output per employee year and related data, 1967-94  
(1967=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	92.8	129.1	138.1	25.9	37.9
1968	93.1	141.6	144.4	27.5	38.0
1969	108.6	146.9	137.8	29.4	37.8
1970	108.9	137.2	128.3	34.1	31.8
1971	93.5	110.1	117.7	37.1	38.7
1972	95.7	107.8	108.3	40.1	40.8
1973	105.8	113.7	107.7	41.4	39.2
1974	112.2	121.8	108.4	43.7	39.3
1975	117.4	129.9	110.8	48.2	39.3
1976	114.9	120.2	104.8	48.5	42.9
1977	118.4	113.9	98.2	53.0	41.9
1978	121.5	118.5	98.3	57.5	47.4
1979	119.3	116.3	97.4	61.2	51.2
1980	115.8	115.5	100.0	62.1	53.8
1981	114.8	117.3	102.1	66.8	58.2
1982	110.4	112.0	101.4	79.2	71.7
1983	112.8	118.2	103.0	84.8	75.0
1984	115.9	120.0	103.8	86.1	76.8
1985	118.1	123.5	100.7	91.4	76.7
1986	110.9	115.5	104.1	94.8	88.8
1987	100.0	100.0	100.0	100.0	100.0
1988	101.4	105.8	105.3	105.8	104.4
1989	105.8	115.8	108.8	100.4	94.1
1990	117.2	129.0	110.1	108.5	99.9
1991	129.4	130.2	102.9	110.8	98.4
1992	116.9	112.5	98.2	115.2	98.5
1993	118.1	107.1	98.7	119.1	100.9
1994	115.5	100.2	98.8	132.2	114.4
<b>Average annual percent change:</b>					
1987-94	.8	-9	-1.7	6.2	5.4
1987-94	2.1	0	-2.0	4.1	1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

Table 203. Federal Government-Buildings, grounds, and equipment maintenance: Indexes of output per employee year and related data, 1967-94

(1967=100)

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	95.1	95.3	137.1	35.7	47.2
1968	94.1	93.8	138.1	31.8	48.8
1969	94.6	93.5	133.8	36.3	54.7
1970	92.4	94.2	132.9	38.7	52.7
1971	92.6	94.4	138.4	43.2	59.0
1972	94.9	94.4	133.5	48.4	74.8
1973	92.2	92.1	126.8	52.2	62.7
1974	98.4	92.1	125.8	57.8	67.0
1975	79.3	94.8	126.8	61.5	81.7
1976	77.3	93.8	121.3	62.3	88.4
1977	92.1	91.4	111.4	78.7	93.4
1978	94.2	93.8	111.4	78.9	93.7
1979	92.4	97.5	108.1	94.9	94.9
1980	90.1	100.0	111.0	88.4	98.0
1981	100.2	108.1	108.8	98.5	98.3
1982	104.2	106.4	101.1	121.0	98.9
1983	106.0	104.8	99.8	98.7	91.1
1984	107.0	108.4	99.4	97.4	91.0
1985	106.7	106.1	100.3	98.4	94.0
1986	100.5	101.4	100.8	102.0	101.5
1987	100.0	100.0	100.0	100.8	100.0
1988	98.1	95.8	99.5	105.7	107.9
1989	97.8	102.1	104.3	107.4	108.8
1990	100.4	96.0	98.6	113.8	113.2
1991	98.1	95.8	97.3	123.2	124.3
1992	101.7	105.8	104.9	129.3	127.1
1993	107.2	110.7	103.1	137.1	127.8
1994	116.1	117.9	101.8	141.8	121.0
<b>Average annual percent change:</b>					
1967-94	2.2	1.0	-1.1	5.8	3.8
1987-94	2.2	2.4	-2	5.1	2.9

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

Table 204. Federal Government-Education and training: Indexes of output per employee year and related data, 1968-94  
(1967=100)

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1968	94.9	96.2	104.0	27.8	32.8
1969	94.9	96.8	113.7	30.1	35.5
1970	77.3	97.9	128.8	32.1	41.4
1971	77.9	97.9	126.7	36.1	45.1
1972	80.5	101.3	125.8	40.5	50.3
1973	78.7	98.1	124.7	41.8	53.1
1974	77.5	90.0	116.2	48.4	58.8
1975	75.1	95.4	113.8	48.4	64.5
1976	80.1	92.8	102.1	51.6	62.8
1977	82.7	95.8	98.8	56.7	61.2
1978	91.5	95.4	93.3	58.7	64.2
1979	97.2	95.5	98.0	61.7	63.5
1980	97.8	98.9	93.8	67.1	68.7
1981	107.4	90.1	93.9	75.3	70.1
1982	109.7	91.4	92.0	80.5	77.8
1983	101.3	94.0	92.8	85.1	94.0
1984	100.3	95.3	95.0	88.2	89.0
1985	100.7	97.8	97.0	93.2	92.8
1986	101.3	98.4	98.1	98.4	97.2
1987	100.0	100.0	100.0	100.0	100.0
1988	102.6	96.5	93.8	103.0	100.4
1989	101.8	95.0	91.8	105.8	104.2
1990	107.9	98.8	98.8	110.9	108.7
1991	93.3	78.8	84.5	115.1	123.4
1992	90.3	79.3	83.4	119.8	122.4
1993	98.7	79.5	78.8	124.1	128.8
1994	95.3	87.7	71.1	130.4	128.8
<b>Average annual percent change:</b>					
1968-94	.4	-1.0	-1.8	6.1	5.8
1987-94	-0.7	-0.4	-4.8	5.8	4.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 205. Federal Government-Electric power production and distribution: Indexes of output per employee year and related data, 1957-64  
(1957=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	100.4	101.9	51.9	28.5	13.5
1958	214.3	129.6	60.5	28.2	13.1
1959	230.0	148.2	62.5	30.5	13.1
1960	251.2	168.3	67.4	32.8	13.0
1961	242.9	162.3	70.2	32.3	14.5
1962	257.9	217.8	84.4	38.2	15.2
1963	254.5	166.3	70.5	41.4	16.3
1964	240.4	166.1	70.6	43.8	17.5
1965	244.5	200.8	86.8	46.9	18.2
1966	235.2	228.2	87.0	54.0	22.9
1967	220.0	262.0	116.0	57.7	25.5
1968	231.0	323.3	138.9	62.1	25.5
1969	204.9	323.5	157.9	66.7	25.5
1970	208.4	334.8	160.8	68.5	24.4
1971	193.4	310.3	193.4	68.8	23.2
1972	142.0	201.3	141.8	70.1	22.2
1973	176.1	218.4	134.0	78.8	21.5
1974	151.8	172.8	113.7	81.9	22.9
1975	132.3	147.9	111.8	94.7	24.0
1976	123.1	118.4	96.2	95.0	27.1
1977	100.0	100.0	100.0	100.0	100.0
1978	91.1	98.8	108.8	101.4	111.3
1979	125.4	113.9	90.8	107.1	26.4
1980	132.8	118.2	88.0	111.3	26.8
1981	138.4	120.3	98.9	122.0	28.2
1982	142.7	115.2	93.7	132.8	29.1
1983	134.4	103.8	77.1	138.8	103.0
1984	150.0	113.9	75.9	145.3	98.0
Average annual percent change:					
1957-64	-1.0	.4	1.4	6.5	7.5
1957-64	8.0	1.9	-3.9	6.5	-4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 206. Federal Government-Finance and accounting: Indexes of output per employee year and related data, 1957-64  
(1957=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	45.0	55.8	130.8	27.0	50.1
1958	45.1	50.8	131.8	28.5	51.9
1959	45.6	62.7	134.5	29.3	54.1
1960	48.1	52.7	130.4	33.8	70.4
1961	48.8	52.8	129.4	38.5	74.9
1962	48.0	52.1	129.4	38.1	81.8
1963	47.4	50.7	126.0	41.2	88.9
1964	48.0	58.4	121.2	44.9	91.5
1965	53.2	61.2	115.1	48.5	91.2
1966	58.7	63.1	111.2	52.3	92.3
1967	57.4	63.2	110.0	55.2	93.0
1968	58.2	62.1	104.9	55.4	102.0
1969	61.8	63.6	102.8	64.8	104.8
1970	68.7	73.5	105.5	70.0	100.8
1971	72.4	78.7	104.5	75.0	102.1
1972	85.6	82.5	98.5	79.0	92.2
1973	95.8	90.2	94.1	88.1	98.8
1974	94.0	91.9	97.8	90.8	98.4
1975	92.7	92.7	98.9	94.3	100.8
1976	97.0	98.4	101.4	98.5	98.5
1977	100.0	100.0	100.0	100.0	100.0
1978	102.4	99.2	95.9	104.0	101.8
1979	102.4	99.1	95.7	108.5	108.0
1980	104.7	103.3	95.8	108.8	100.8
1981	110.8	105.0	94.9	120.0	108.4
1982	110.5	107.8	92.5	129.8	111.4
1983	108.5	102.8	93.7	134.2	122.7
1984	122.5	100.0	95.5	138.0	113.4
Average annual percent change:					
1957-64	3.8	2.2	-1.8	6.3	2.4
1957-64	2.9	3	-4.1	4.8	1.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 207. Federal Government-General support services: Indexes of output per employee year and related data, 1957-84  
(1957=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	45.4	30.8	67.3	32.0	70.5
1958	48.9	34.5	68.2	33.0	68.3
1959	50.3	35.9	71.4	35.3	70.1
1960	58.0	38.3	70.1	38.2	70.1
1961	58.0	42.4	73.1	41.1	70.8
1962	65.5	48.5	71.0	48.7	71.3
1963	68.4	48.8	71.3	48.0	71.8
1964	70.3	52.1	74.1	50.5	80.4
1965	63.3	51.1	69.7	56.4	80.0
1966	65.4	52.9	69.9	58.1	80.9
1967	68.4	57.6	62.9	63.0	82.0
1968	71.9	62.2	67.9	63.0	82.4
1969	76.3	63.7	63.4	68.0	87.3
1970	79.3	67.8	68.5	70.0	88.3
1971	88.8	72.2	81.5	78.1	88.1
1972	112.4	92.8	92.5	95.0	78.2
1973	108.8	92.9	98.4	98.0	81.9
1974	103.1	93.3	93.4	94.0	91.1
1975	94.5	98.8	102.5	97.5	108.2
1976	98.0	100.1	101.1	102.4	103.3
1977	100.0	100.0	100.0	100.0	100.0
1978	94.0	101.8	103.3	103.3	108.9
1979	102.6	114.8	111.9	103.5	100.8
1980	98.1	110.4	120.8	105.9	107.9
1981	98.7	111.4	115.2	113.4	117.3
1982	94.1	113.2	120.3	125.8	133.8
1983	94.4	101.1	119.8	134.8	188.8
1984	90.7	105.2	120.3	120.5	172.8
<b>Average annual percent change:</b>					
1957-84	2.2	4.7	2.5	5.8	3.4
1957-84	-3.0	.7	3.8	4.9	8.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 208. Federal Government-Information services: Indexes of output per employee year and related data, 1957-84  
(1957=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	73.4	72.3	98.8	32.3	44.0
1958	75.4	75.2	98.8	34.0	45.1
1959	77.8	78.0	100.3	35.8	46.8
1960	78.5	77.8	101.5	40.7	52.2
1971	78.8	82.4	104.8	42.8	53.7
1972	78.7	82.9	105.4	45.1	57.4
1973	73.2	83.5	114.0	44.8	61.1
1974	75.4	88.3	113.1	48.0	63.8
1975	79.3	88.8	113.0	50.4	65.8
1976	77.4	88.7	114.8	53.3	68.9
1977	76.7	88.5	112.8	58.9	74.1
1978	77.8	88.1	108.4	61.8	78.8
1979	79.5	88.6	108.0	65.0	81.7
1980	79.5	87.1	108.8	70.4	88.8
1981	80.1	88.3	111.8	78.3	88.2
1982	81.9	88.7	108.9	80.8	88.4
1983	87.5	90.2	103.0	84.7	90.8
1984	91.1	92.7	101.7	90.0	98.7
1985	98.0	98.4	102.5	94.2	98.1
1986	97.1	98.8	101.7	98.9	98.8
1987	100.0	100.0	100.0	100.0	100.0
1988	98.5	98.5	98.9	108.5	107.0
1989	103.8	103.1	98.3	111.1	107.0
1990	108.7	108.1	98.5	115.5	108.2
1991	112.0	110.9	98.0	121.7	108.7
1992	111.5	112.8	101.1	127.6	114.4
1993	112.1	114.8	102.1	132.8	118.8
1994	119.0	116.0	98.1	137.8	114.0
<b>Average annual percent change:</b>					
1957-84	1.8	1.9	.0	5.5	3.8
1957-84	2.8	2.5	.1	4.7	2.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

Table 209. Federal Government-Legal and judicial activities: Indexes of output per employee year and related data, 1957-84  
(1957=100)

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	98.7	98.4	92.3	90.4	94.2
1958	98.0	97.4	93.9	91.5	93.5
1959	99.0	97.8	92.8	95.0	96.8
1960	94.5	90.7	92.5	90.8	92.1
1961	101.2	93.8	92.9	93.1	92.6
1962	102.0	97.2	92.5	94.9	92.5
1963	100.3	98.8	92.5	95.5	94.4
1964	92.6	95.2	92.9	95.4	95.2
1965	93.6	92.8	92.9	95.9	95.2
1966	91.8	90.7	72.5	94.2	93.5
1967	98.0	97.0	76.2	94.2	91.8
1968	98.0	97.8	76.9	95.1	90.7
1969	98.8	71.3	76.4	92.3	90.4
1970	98.5	70.5	98.7	97.3	75.4
1971	91.9	80.1	97.3	72.9	79.4
1972	95.8	95.2	98.9	90.5	94.0
1973	95.3	98.1	98.8	94.2	95.7
1974	95.8	90.1	93.0	98.8	91.7
1975	95.4	95.7	98.3	92.2	92.7
1976	95.8	97.5	97.8	95.9	95.0
1977	100.0	100.0	100.0	100.0	100.0
1978	100.7	107.0	105.2	103.5	102.5
1979	99.8	108.1	108.5	109.5	109.0
1980	98.0	108.4	114.0	114.9	119.7
1981	92.6	113.5	122.6	125.3	135.2
1982	91.9	123.9	134.7	138.2	145.1
1983	92.9	125.9	126.5	141.8	152.5
1984	91.1	124.0	126.2	148.0	162.5
<b>Average annual percent change:</b>					
1957-84	.1	3.7	3.8	6.0	5.9
1987-84	-1.3	3.1	4.8	5.8	7.2

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

Table 210. Federal Government-Library services: Indexes of output per employee year and related data, 1957-84  
(1957=100)

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	43.9	31.0	70.6	24.9	55.7
1958	45.1	37.8	91.4	25.7	55.7
1959	48.8	40.2	80.8	29.1	58.4
1960	50.1	40.4	90.7	32.9	55.8
1961	50.9	41.8	91.7	35.8	70.0
1962	51.2	43.1	94.2	36.9	75.9
1963	53.9	47.8	98.7	40.5	75.1
1964	57.8	52.5	98.8	43.9	78.9
1965	64.9	50.5	93.3	46.8	71.8
1966	72.1	59.4	98.3	49.4	68.8
1967	77.7	79.1	101.8	55.2	71.0
1968	74.9	78.8	105.2	61.3	81.7
1969	78.0	83.7	107.3	63.1	80.9
1970	82.7	88.0	108.4	70.0	94.8
1971	86.6	90.2	104.1	77.1	99.0
1972	85.3	88.8	108.4	78.9	98.0
1973	85.8	90.2	108.4	88.8	101.5
1974	92.1	94.3	102.3	95.9	97.5
1975	95.9	98.2	102.4	98.5	102.8
1976	101.7	98.8	97.0	100.3	98.8
1977	100.0	100.0	100.0	100.0	100.0
1978	104.3	102.2	98.0	107.1	102.7
1979	107.5	103.9	98.7	111.8	103.9
1980	116.5	109.8	94.3	120.2	108.2
1981	109.9	111.4	101.4	121.0	110.1
1982	125.5	116.1	92.8	143.1	114.0
1983	118.1	108.8	93.0	132.7	120.3
1984	116.1	105.5	90.8	157.4	126.7
<b>Average annual percent change:</b>					
1957-84	3.7	4.8	3.8	7.1	5.3
1987-84	2.2	3.8	4.8	6.7	4.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 211. Federal Government-Loans and grants: Indexes of output per employee year and related data, 1967-94  
(1967=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	98.2	98.8	98.3	98.4	47.0
1968	98.4	98.5	98.0	98.2	47.5
1969	91.9	92.2	100.5	90.5	49.3
1970	98.7	71.0	100.3	94.7	92.5
1971	76.1	94.2	110.8	37.4	48.2
1972	76.2	98.4	114.9	38.4	52.4
1973	76.2	98.2	113.2	41.9	55.1
1974	77.8	81.0	104.5	46.3	55.5
1975	93.7	93.2	100.0	48.2	60.0
1976	94.9	98.0	104.8	52.4	61.7
1977	95.5	97.5	108.9	57.1	64.4
1978	97.8	102.9	117.2	58.8	67.9
1979	95.4	114.2	119.7	61.3	64.3
1980	95.1	112.2	120.4	67.8	72.5
1981	97.8	114.0	118.8	78.8	78.5
1982	92.8	96.6	104.1	83.0	68.4
1983	104.0	107.8	103.5	87.1	83.5
1984	98.4	105.4	108.0	88.1	88.7
1985	100.5	111.3	102.5	94.2	98.0
1986	100.8	108.8	103.8	98.0	98.2
1987	100.0	100.0	100.0	100.0	100.0
1988	94.2	94.5	100.2	105.4	111.9
1989	90.4	90.0	90.8	111.8	123.5
1990	101.1	103.4	102.3	118.1	117.8
1991	99.2	99.5	101.5	128.8	142.2
1992	92.4	100.2	108.4	138.8	147.7
1993	95.2	104.9	110.2	144.7	152.1
1994	100.7	115.8	109.4	158.8	147.3
<b>Average annual percent change:</b>					
1967-94	2.4	2.7	.4	6.8	4.3
1987-94	.8	2.1	1.3	6.8	6.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 212. Federal Government-Medical services: Indexes of output per employee year and related data, 1967-94  
(1967=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	92.7	87.2	72.4	25.5	27.5
1968	94.5	70.4	74.5	28.8	32.3
1969	94.8	71.2	75.1	28.0	32.8
1970	94.0	70.3	74.7	31.9	33.9
1971	93.4	70.4	75.4	34.8	37.2
1972	98.5	88.5	78.8	38.0	43.0
1973	91.3	75.1	82.2	40.3	44.1
1974	91.1	75.8	82.2	43.0	47.2
1975	92.8	78.4	84.4	46.8	50.4
1976	94.3	81.3	86.2	52.3	55.4
1977	94.2	82.0	87.0	54.1	57.4
1978	92.5	82.3	88.9	58.8	61.3
1979	92.7	82.3	88.4	60.4	65.1
1980	94.7	88.3	80.1	65.3	68.0
1981	95.0	88.7	80.2	73.9	77.7
1982	95.1	90.8	84.4	78.8	82.8
1983	95.0	94.2	85.1	83.0	94.7
1984	97.5	94.7	87.2	88.2	93.5
1985	97.8	95.8	88.2	88.3	91.4
1986	98.4	98.2	89.8	93.8	94.4
1987	100.0	100.0	100.0	100.0	100.0
1988	104.0	102.2	95.3	108.4	101.3
1989	102.8	100.3	97.8	111.1	102.0
1990	100.8	100.5	98.8	117.0	118.2
1991	94.3	98.1	104.0	124.4	131.9
1992	93.9	98.3	102.8	122.8	141.1
1993	95.5	98.8	100.1	138.8	146.9
1994	90.6	98.4	108.4	141.5	150.2
<b>Average annual percent change:</b>					
1967-94	-1	1.3	1.4	6.8	6.8
1987-94	-1.4	-1.7	-1.8	6.1	6.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

Table 213. Federal Government-Natural resources and environmental management: Indexes of output per employee year and related data, 1957-94  
(1957=100)

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	71.8	62.3	114.7	27.3	38.0
1958	72.6	62.5	112.6	28.0	40.0
1959	72.1	70.5	110.2	31.4	43.5
1960					
1970	72.8	76.8	105.5	36.7	48.1
1971	77.3	79.0	102.2	38.1	50.8
1972	78.0	82.1	103.8	40.8	51.8
1973	80.5	81.5	101.3	43.4	53.5
1974	78.5	80.1	100.7	46.7	57.5
1975	78.3	81.3	103.8	47.9	61.1
1976	78.4	84.8	106.8	51.8	64.0
1977	78.5	87.5	110.0	54.4	66.4
1978	83.8	94.1	112.8	57.5	68.8
1979	81.3	82.1	113.2	61.4	70.5
1980					
1981	81.1	91.9	113.3	70.2	80.0
1982	81.7	93.9	115.0	74.2	83.0
1983	89.0	99.4	111.7	78.8	89.5
1984	88.8	99.8	111.3	88.7	88.5
1985	89.0	101.0	108.9	88.8	89.5
1986	94.9	100.3	105.7	97.0	102.3
1987	95.8	98.8	102.9	98.8	101.0
1988	100.0	100.0	100.0	100.0	100.0
1989	100.8	104.6	103.7	107.5	108.8
1990	98.7	99.1	100.4	108.5	108.9
1991					
1992	102.4	106.5	104.0	111.2	108.8
1993	99.0	104.1	104.2	116.8	116.8
1994	97.8	102.3	104.8	118.4	122.1
1995	92.3	98.8	105.5	128.0	130.1
1996	94.8	98.2	103.6	130.0	137.1
<b>Average annual percent change:</b>					
1957-94	1.0	.7	-4	6.0	4.8
1957-94	-8	-3	-5	3.8	4.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

Table 214. Federal Government-Personnel investigations: Indexes of output per employee year and related data, 1957-94  
(1957=100)

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	83.7	38.9	57.9	27.8	43.8
1958	88.2	39.2	58.7	31.2	46.0
1959	84.6	37.8	58.1	33.3	51.5
1960					
1970	63.7	34.0	53.3	38.4	61.8
1971	71.9	34.7	48.2	38.8	56.3
1972	72.4	31.9	44.0	44.4	61.3
1973	75.1	30.8	41.0	47.1	62.8
1974	77.5	102.7	132.8	43.4	58.0
1975	82.0	107.9	131.7	47.7	58.2
1976	78.0	90.4	115.9	52.0	58.7
1977	83.5	94.7	101.2	56.5	60.4
1978	88.8	99.1	102.8	58.7	61.8
1979	101.8	92.0	81.1	65.8	65.8
1980					
1981	100.7	81.5	61.1	73.1	72.8
1982	102.7	67.8	68.1	78.9	78.9
1983	97.7	79.5	78.3	78.0	78.8
1984	83.0	78.6	84.8	88.5	88.2
1985	85.8	82.2	88.0	88.2	88.3
1986	88.7	90.5	91.8	93.8	95.0
1987	82.3	88.6	98.2	94.8	102.8
1988	100.0	100.0	100.0	100.0	100.0
1989	108.8	102.8	98.3	114.2	108.8
1990	99.2	102.2	103.1	117.1	118.0
1991					
1992	116.7	136.8	115.1	123.3	108.8
1993	117.0	137.8	117.2	123.3	114.0
1994	127.1	127.4	100.3	141.8	111.3
1995	121.2	116.4	98.1	153.8	128.8
1996	118.8	93.8	78.9	165.1	138.9
<b>Average annual percent change:</b>					
1957-94	2.3	3.5	1.2	6.8	4.8
1957-94	2.5	-3	-3.3	7.4	4.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

Table 215. Federal Government-Personnel management: Indexes of output per employee year and related data, 1957-94  
(1957=100)

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	91.0	44.7	94.9	24.5	95
1958	97.4	59.5	97.5	29.1	91.4
1959	92.0	55.5	97.4	28.8	91.8
1960	95.2	60.1	98.8	44.2	91.9
1961	97.1	60.1	71.1	43.9	92.3
1962	98.5	67.7	70.2	47.5	92.2
1963	94.5	72.9	70.3	47.5	92.1
1964	101.5	80.5	94.3	52.4	93.6
1965	98.0	80.5	90.9	52.5	91.6
1966	94.8	82.5	97.2	54.7	92.9
1967	101.6	82.5	98.3	54.5	92.1
1968	98.1	82.5	94.7	54.5	92.7
1969	110.5	82.5	98.4	72.3	92.8
1970	101.5	100.0	100.4	82	92
1971	98.0	97.9	98.3	79.5	92.5
1972	100.5	98.6	91.9	89.8	92.5
1973	95.0	98.7	100.9	94.5	92.5
1974	102.0	98.5	98.2	92.5	92.7
1975	101.7	98.0	97.3	92.1	92.8
1976	102.4	101.9	98.5	92.5	92.2
1977	100.0	100.0	100.0	103.0	92.8
1978	101.3	98.1	98.0	102.7	101.3
1979	101.8	98.0	94.2	100.8	104.7
1980	98.2	91.9	98.6	111.4	110.8
1981	98.3	91.4	98.7	117.4	122.2
1982	98.3	92.2	98.5	122.4	127.2
1983	98.2	92.6	102.9	125.4	140.0
1984	91.4	91.2	98.8	126.0	137.1
Average annual percent change:					
1957-94	-0	-2.2	-2.3	8.2	9.2
1957-94	-2.9	-2.9	-2.9	4.8	7.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

Table 216. Federal Government-Postal service (SIC 4311): Indexes of output per employee year and related data, 1957-94  
(1957=100)

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	91.5	58.4	92.9	22.5	97.7
1958	90.1	58.3	92.5	23.7	98.5
1959	90.6	71.8	92.7	25.4	91.5
1960	91.0	73.0	90.2	27.8	94.1
1961	92.5	74.4	95.9	31.8	95.2
1962	93.5	73.5	97.9	34.0	95.7
1963	92.5	75.3	95.0	38.8	91.2
1964	92.2	75.4	97.4	40.5	95.5
1965	93.1	74.2	98.1	46.1	92.8
1966	92.4	73.4	94.9	51.8	92.0
1967	92.2	74.8	92.9	58.1	94.5
1968	93.0	76.5	92.2	59.7	97.4
1969	91.9	78.8	92.8	65.8	72.5
1970	94.8	79.9	94.3	72.0	75.0
1971	95.0	81.1	94.5	78.3	91.9
1972	95.5	81.5	94.5	85.0	95.9
1973	95.9	92.9	98.5	86.2	95.9
1974	92.1	92.4	92.1	92.4	92.1
1975	92.4	92.4	92.9	95.3	92.8
1976	92.9	98.7	98.7	97.1	97.2
1977	100.0	100.0	100.0	102.0	100.0
1978	92.9	102.0	102.1	108.0	108.7
1979	92.8	103.5	103.7	114.8	114.9
1980	104.2	107.3	103.0	122.0	117.1
1981	103.8	107.0	103.1	120.8	123.8
1982	104.7	107.4	102.8	127.5	131.2
1983	107.4	110.3	102.7	142.2	132.4
1984	108.4	113.4	108.8	141.2	132.8
Average annual percent change:					
1957-94	1.0	1.0	.9	7.0	9.0
1957-94	.9	1.0	.9	5.1	4.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 217. Federal Government-Printing and duplication: Indexes of output per employee year and related data, 1957-94  
(1957=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	92.0	144.4	156.9	25.9	28.1
1958	91.1	142.7	156.7	27.2	29.9
1959	90.0	138.1	156.9	28.7	32.5
1960	87.5	137.3	156.9	31.9	34.5
1961	80.7	121.1	150.0	35.2	42.5
1962	79.4	117.4	147.7	38.0	46.1
1963	81.3	121.3	148.2	40.5	48.8
1964	78.4	115.1	148.7	44.4	52.5
1965	77.8	108.8	141.2	48.3	53.8
1966	78.1	106.1	136.6	50.3	71.1
1967	78.8	101.4	130.8	61.5	76.1
1968	78.9	95.7	124.5	65.5	82.5
1969	81.8	90.0	119.9	70.8	88.8
1970	85.4	88.1	114.9	78.0	87.8
1971	80.9	84.1	116.3	76.0	94.0
1972	82.4	81.0	109.1	81.7	97.9
1973	83.2	80.1	110.0	88.1	98.8
1974	84.9	104.5	110.2	98.5	98.3
1975	83.3	104.1	108.1	92.4	92.0
1976	85.5	102.4	104.0	97.1	98.8
1977	100.0	100.0	100.0	100.0	100.0
1978	104.3	102.8	98.4	102.0	97.8
1979	102.4	97.4	95.1	108.0	103.5
1980	103.1	95.3	92.4	111.0	107.8
1981	92.8	82.9	88.5	115.4	134.7
1982	101.0	90.8	88.9	122.7	121.5
1983	92.7	80.9	87.3	128.1	128.1
1984	98.9	78.7	80.8	138.2	137.7
<b>Average annual percent change:</b>					
1957-94	.3	-2.2	-2.4	6.3	6.1
1957-94	-2	-3.2	-3.0	4.5	4.7

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 218. Federal Government-Procurement: Indexes of output per employee year and related data, 1957-94  
(1957=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	73.2	78.9	107.7	34.5	47.2
1958	70.8	74.3	104.9	37.2	52.8
1959	69.7	72.3	103.8	40.8	58.6
1960	63.0	60.9	98.5	46.0	73.0
1961	68.6	66.8	95.8	50.3	72.3
1962	69.9	60.1	95.9	45.8	68.4
1963	72.2	61.4	95.0	49.4	68.5
1964	76.8	62.7	91.8	51.2	68.6
1965	79.0	63.8	90.8	54.8	68.4
1966	81.8	64.2	78.5	58.0	70.8
1967	82.3	67.2	81.7	60.7	73.7
1968	88.5	73.1	81.8	65.3	72.9
1969	88.0	75.2	78.1	68.5	72.1
1970	89.7	81.0	81.2	72.1	72.4
1971	105.2	88.0	83.7	79.2	75.2
1972	103.2	80.4	87.7	83.0	80.4
1973	102.7	93.0	90.8	87.8	88.3
1974	104.7	95.9	91.5	90.7	88.8
1975	100.9	97.8	97.0	94.1	93.3
1976	98.4	100.7	102.3	97.7	98.3
1977	100.0	100.0	100.0	100.0	100.0
1978	98.5	98.1	101.7	102.4	108.1
1979	90.8	93.9	103.4	104.0	114.8
1980	95.8	90.8	105.7	108.4	128.3
1981	95.2	90.8	105.3	113.9	133.7
1982	93.7	93.3	105.8	120.7	144.2
1983	95.5	95.5	102.3	124.7	144.1
1984	97.8	94.1	95.7	127.1	144.5
<b>Average annual percent change:</b>					
1957-94	.7	.2	-4	4.9	4.2
1957-94	-1.8	-2.4	-8	3.5	3.4

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 219. Federal Government-Records management: Indexes of output per employee year and related data, 1967-84  
(1967=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	99.7	99.1	100.0	29.7	48.3
1968	97.5	93.0	101.7	28.9	50.2
1969	93.0	100.1	100.0	32.1	50.3
1970	91.7	103.2	107.1	30.1	50.5
1971	99.7	100.5	108.7	30.8	50.3
1972	99.4	102.5	104.3	44.5	67.0
1973	95.8	102.7	106.4	46.3	60.0
1974	94.0	91.9	127.9	50.3	70.5
1975	99.4	78.0	108.5	52.7	75.0
1976	75.0	82.9	110.4	58.1	77.4
1977	79.5	85.9	111.4	61.7	77.3
1978	92.8	90.9	100.0	66.5	80.3
1979	87.3	90.3	113.1	68.7	78.4
1980	99.1	102.2	114.7	71.2	79.0
1981	93.9	97.7	107.5	71.4	78.0
1982	95.8	97.1	101.3	78.2	81.0
1983	97.3	98.0	100.7	78.0	81.0
1984	100.0	103.1	100.1	83.3	83.4
1985	99.0	98.0	102.1	80.8	83.8
1986	102.5	108.5	103.9	82.8	80.2
1987	100.0	100.0	100.0	100.0	100.0
1988	95.4	90.2	97.7	101.5	108.4
1989	94.5	91.8	97.0	104.8	110.7
1990	107.8	98.8	98.9	113.4	105.4
1991	109.7	92.6	95.9	123.1	115.3
1992	104.0	88.4	95.0	128.8	123.8
1993	100.7	92.7	92.2	130.5	126.5
1994	102.0	79.5	77.9	148.8	145.0
<b>Average annual percent change:</b>					
1967-84	2.1	-0.6	-0.8	6.3	4.1
1987-84	.3	-0.2	-0.5	6.3	5.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 220. Federal Government-Regulation compliance and enforcement: Indexes of output per employee year and related data, 1967-84  
(1967=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1967	99.1	40.7	98.8	28.1	47.7
1968	93.8	42.5	70.4	29.2	48.0
1969	92.7	43.5	88.8	31.5	50.3
1970	94.4	41.4	70.4	35.8	55.2
1971	95.5	47.7	72.8	37.8	57.7
1972	97.5	60.5	73.4	40.2	59.2
1973	98.5	53.5	77.5	41.2	59.3
1974	70.2	59.5	81.0	44.1	62.8
1975	98.8	60.0	88.2	47.0	67.8
1976	71.7	62.5	87.8	50.9	70.9
1977	73.2	65.3	88.2	54.5	74.4
1978	74.1	67.5	91.8	58.3	80.0
1979	78.5	72.0	94.2	62.9	82.2
1980	79.8	74.5	94.8	67.9	88.3
1981	92.3	76.7	92.0	73.3	89.0
1982	93.8	79.5	92.2	79.8	91.7
1983	92.7	82.1	92.8	85.3	92.0
1984	92.5	84.1	90.5	88.7	95.5
1985	95.2	89.8	94.1	94.5	99.2
1986	102.9	97.8	94.7	95.6	98.9
1987	100.0	100.0	100.0	100.0	100.0
1988	95.9	104.4	108.0	104.0	108.5
1989	95.5	107.9	112.9	107.3	112.3
1990	98.0	109.2	113.7	113.4	118.2
1991	91.5	108.3	119.4	124.3	126.8
1992	92.9	111.3	119.8	135.2	145.5
1993	94.8	113.8	119.9	147.8	155.8
1994	97.5	115.8	118.7	154.4	158.3
<b>Average annual percent change:</b>					
1967-84	1.9	3.9	2.0	6.3	4.5
1987-84	-4	2.1	2.5	6.4	5.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 221. Federal Government-Regulation rulemaking and licensing: Indexes of output per employee year and related data, 1957-64 (1957=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	48.3	34.9	70.7	35.5	57.5
1958	51.4	37.2	72.4	35.5	57.5
1959	53.5	37.8	70.3	35.5	57.4
1960	55.8	40.0	70.7	37.5	58.5
1961	55.3	42.8	72.2	39.7	59.5
1962	55.8	43.5	72.7	41.2	60.5
1963	51.8	47.5	77.0	42.7	62.5
1964	52.4	49.5	69.0	45.5	71.5
1965	53.4	49.5	68.5	47.5	70.1
1966	51.0	50.3	62.5	51.1	68.5
1967	54.5	54.2	62.5	52.2	67.0
1968	55.2	55.5	67.2	53.7	64.2
1969	51.7	55.4	61.7	55.0	65.7
1970	70.7	66.5	80.5	57.1	94.5
1971	75.5	75.9	80.5	74.3	94.5
1972	84.5	79.0	91.9	94.9	95.5
1973	80.0	87.1	88.5	97.5	97.5
1974	94.5	94.5	100.2	98.0	97.5
1975	98.2	100.1	100.9	94.5	95.5
1976	97.4	98.0	100.5	98.0	97.5
1977	100.0	100.0	100.0	100.0	100.0
1978	98.5	101.8	101.8	102.1	102.2
1979	98.5	104.2	106.5	111.1	112.4
1980	98.5	107.2	107.7	121.7	122.5
1981	101.1	111.8	110.5	129.7	128.5
1982	104.5	116.5	111.3	141.4	135.2
1983	104.0	120.5	116.0	152.7	147.5
1984	101.4	118.5	114.9	161.9	169.7
Average annual percent change:					
1957-64	2.7	4.8	1.8	6.8	3.8
1957-64	.2	2.2	2.0	7.1	6.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

**Table 222. Federal Government-Social services and benefits: Indexes of output per employee year and related data, 1957-64 (1957=100)**

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	52.5	45.0	78.5	35.5	41.1
1958	52.7	52.0	82.5	35.1	44.7
1959	54.8	54.2	83.5	35.1	45.4
1960	67.5	58.0	82.5	34.5	51.2
1961	71.5	61.3	85.5	37.5	52.5
1962	72.7	64.1	81.1	38.5	54.5
1963	75.0	66.1	88.5	42.5	55.5
1964	74.8	75.5	105.7	42.5	57.5
1965	75.7	88.5	115.5	45.2	59.0
1966	79.0	88.4	120.5	48.1	61.4
1967	85.1	101.2	121.7	53.5	64.5
1968	82.5	91.1	118.7	55.4	70.5
1969	85.2	101.5	118.5	62.5	72.7
1970	94.0	99.0	117.0	67.5	80.5
1971	94.9	98.1	115.5	73.5	87.5
1972	95.1	98.4	116.5	78.4	91.1
1973	91.2	107.2	117.5	82.7	91.8
1974	91.5	104.5	114.5	87.5	95.5
1975	98.5	107.5	108.5	92.4	95.5
1976	95.3	101.0	108.0	94.8	99.5
1977	100.0	100.0	100.0	100.0	100.0
1978	103.5	99.3	95.5	108.5	103.0
1979	107.1	100.5	93.5	112.7	105.2
1980	105.3	97.2	92.5	118.4	112.5
1981	102.9	99.9	94.2	125.1	121.5
1982	110.2	106.1	94.5	134.0	121.0
1983	118.3	111.2	94.0	143.5	121.5
1984	120.7	113.5	94.1	154.5	126.0
Average annual percent change:					
1957-64	2.5	3.2	.7	6.7	4.1
1957-64	2.7	1.8	-3	6.7	3.8

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

Table 223. Federal Government-Specialized manufacturing: Indexes of output per employee year and related data, 1957-94  
(1957=100)

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	95.7	95.8	101.3	26.2	45.8
1958	95.2	95.5	102.0	25.3	45.5
1959	95.7	92.0	104.2	25.9	45.2
1960					
1970	92.4	92.5	147.5	32.3	51.7
1971	70.0	100.3	143.3	35.8	61.1
1972	68.1	87.0	146.7	37.9	67.3
1973	64.9	102.0	157.2	41.8	64.1
1974	64.5	91.5	141.8	40.4	70.4
1975	64.0	94.8	132.5	40.8	77.8
1976	65.9	95.9	125.8	53.1	79.3
1977	65.4	95.8	117.8	58.8	87.5
1978	72.8	92.2	114.7	53.4	87.4
1979	81.5	87.0	108.7	58.5	94.0
1980					
1981	81.8	88.8	102.5	70.5	92.5
1982	97.0	98.2	101.2	85.4	92.5
1983	91.2	98.2	105.5	88.8	92.5
1984	94.4	98.8	104.4	88.5	92.7
1985	98.4	100.3	105.0	90.1	91.6
1986	100.5	104.9	104.3	98.8	91.1
1987	102.0	100.0	98.0	98.7	94.5
1988	100.0	100.0	100.0	100.0	100.0
1989	107.8	105.2	97.7	107.5	102.5
1990	107.8	98.9	92.7	114.1	102.5
1991	101.4	98.9	97.8	121.8	119.2
1992	98.7	97.0	98.3	131.1	128.8
1993	98.2	98.4	98.1	138.5	144.0
1994	98.2	94.8	101.8	142.8	142.1
1995	100.0	108.8	105.8	153.9	152.5
<b>Average annual percent change:</b>					
1957-94	2.4	3	-1.5	6.8	4.3
1987-94	.1	3	.8	6.4	6.2

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

Table 224. Federal Government-Supply and inventory control: Indexes of output per employee year and related data, 1957-94  
(1957=100)

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
<b>Index:</b>					
1957	73.5	145.8	198.2	30.7	41.8
1958	75.8	148.8	193.8	32.0	42.2
1959	80.9	162.2	198.6	31.7	38.5
1960					
1970	81.5	141.8	174.0	35.7	43.8
1971	82.3	129.0	196.7	40.1	48.7
1972	82.7	123.7	149.5	42.7	51.6
1973	83.3	115.4	138.8	45.3	54.4
1974	83.3	108.5	126.5	46.6	58.5
1975	80.4	108.2	117.4	51.4	58.9
1976	82.3	101.8	110.1	57.8	62.5
1977	88.0	94.0	98.0	62.2	64.8
1978	88.9	98.0	102.2	62.1	68.8
1979	91.3	90.2	98.8	67.4	73.7
1980					
1981	93.8	92.3	98.4	71.4	78.1
1982	94.8	93.1	98.2	75.7	78.9
1983	101.8	98.5	98.7	81.8	88.3
1984	100.1	98.8	98.5	88.1	88.0
1985	98.2	98.8	100.8	88.3	88.8
1986	92.8	95.3	102.7	83.7	101.1
1987	95.1	97.4	102.5	87.3	102.4
1988	100.0	100.0	100.0	100.0	100.0
1989	103.4	98.8	95.8	102.4	98.0
1990	101.8	98.2	94.5	104.7	102.8
1991					
1992	107.3	97.8	90.9	108.7	101.3
1993	113.5	91.1	90.2	115.2	101.8
1994	120.8	119.7	99.1	115.5	98.8
1995	119.9	113.5	94.8	124.2	103.8
1996	120.1	107.0	98.1	129.5	107.8
<b>Average annual percent change:</b>					
1957-94	1.8	-1.1	-2.9	5.5	3.8
1987-94	2.7	1.0	-1.8	5.8	5.1

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

Table 225. Federal Government-Transportation and traffic management: Indexes of output per employee year and related data,  
 1957-64  
 (1957=100)

Year	Output per employee year	Output	Employee years	Compensation per employee year	Unit Index and
<b>Index:</b>					
1957	93.2	91.9	97.9	94.1	93.2
1958	93.5	93.4	99.5	95.5	93.5
1959	92.9	92.9	100.6	95.4	93.0
1960	74.5	70.9	102.1	72.2	41.8
1961	71.7	70.5	100.7	70.8	91.4
1962	74.8	70.7	100.8	70.9	92.5
1963	70.3	69.3	100.3	41.2	92.5
1964	79.4	81.7	105.5	42.8	93.1
1965	80.8	81.7	106.1	47.8	93.2
1966	82.3	82.9	105.3	51.9	93.1
1967	83.9	82.0	105.8	56.1	93.4
1968	91.8	89.9	107.1	58.3	93.7
1969	92.1	94.4	105.7	62.2	93.9
1970	92.5	93.9	106.8	68.5	71.1
1971	97.4	99.9	100.5	74.5	70.5
1972	98.4	99.5	95.1	79.9	70.3
1973	98.8	94.5	95.2	88.5	88.9
1974	98.5	94.9	95.4	90.7	92.1
1975	97.5	97.3	97.8	95.0	92.5
1976	101.2	98.3	97.2	97.8	95.5
1977	100.0	100.0	100.0	100.0	100.0
1978	101.8	98.5	97.8	108.4	104.8
1979	101.6	100.9	99.2	113.4	111.5
1980	100.3	101.5	101.1	123.1	122.7
1981	99.5	102.3	102.5	130.8	130.9
1982	98.6	104.3	104.7	138.8	137.3
1983	102.5	107.3	104.8	147.8	143.9
1984	108.3	110.0	101.0	153.8	141.1
<b>Average annual percent change:</b>					
1957-64	2.0	2.2	.1	7.1	8.0
1967-64	1.2	1.4	.1	6.3	8.0

NOTE: Because of periodic revisions in source data, the measures in the table may differ from those previously published.

## Appendix A. Methods and Data Sources

### Industry Labor Productivity Measures

The indexes of output per employee hour are computed by dividing an index of output by an index of aggregate employee hours. Corresponding measures also are computed relating output to the number of employees. For industries in trade and services, measures are prepared relating output to the hours of all persons involved in producing that output, including self-employed and unpaid family workers.

Output is calculated with a formula that aggregates the growth rates of the various industry products between two periods with weights based on the products' shares in industry value of production—the weight for each product equals its average value share in the two periods.

Specifically, output is calculated with the Tornqvist formula

$$\frac{Q_t}{Q_{t-1}} = \exp \left[ \sum_{i=1}^n w_{i,t} \left( \ln \frac{q_{i,t}}{q_{i,t-1}} \right) \right]$$

where:

$\frac{Q_t}{Q_{t-1}}$  = the ratio of output in the current year ( $t$ ) to output in the previous year ( $t-1$ )

$n$  = number of products

$\ln \frac{q_{i,t}}{q_{i,t-1}}$  = natural logarithm of the ratio of the quantity of product  $i$  in the current year to the previous year

$w_{i,t}$  = average value share weight for product  $i$

The average value share weight for product  $j$  is computed as

$$w_{j,t} = (S_{j,t} + S_{j,t-1}) / 2$$

where:  $S_{j,t} = p_{j,t} q_{j,t} + \left( \sum_{i=1}^n p_{i,t} q_{i,t} \right)$

$p_{i,t}$  = price of product  $i$  at time  $t$

The Tornqvist formula yields the ratio of output in one year to the previous year. These ratios must be chained to-

gether to form a series. If  $t = 3$  and the base year is denoted by 0, then

$$\frac{Q_t}{Q_0} = \frac{Q_t}{Q_{t-1}} \cdot \left( \frac{Q_{t-1}}{Q_{t-2}} \right) \left( \frac{Q_{t-2}}{Q_{t-3}} \right) \cdots \left( \frac{Q_1}{Q_0} \right)$$

The resulting chained output index,  $\frac{Q_t}{Q_0}$ , is used in the productivity formula.

The quantities of products used in the output index (the  $q_i$ 's) are measured with deflated values of production or with actual physical quantities. More than two-thirds of the indexes measuring industry output are derived from data on the value of industry output, adjusted for price change (i.e., deflated value of production). This deflation takes place at the 5-digit product class level. The resulting indexes are conceptually equivalent to indexes which are developed using data based on physical quantities of products. An index of these deflated values shows the change in the real value of output between the past and current periods.

Periodically, the output indexes for most of the measures are adjusted to levels based on comprehensive data reported in the economic censuses for mining, manufacturing, trade, and services. The most current adjustments presented in this bulletin reflect data from the 1992 economic censuses.

The output methodology described above is new. Previously, indexes of output had been calculated with base-year employee-hour weights, which were used to aggregate an industry's products. Also, the output indexes for manufacturing industries are now adjusted for intraindustry transfers and for resales, which previously had not been done routinely.

Employment and employee hour indexes are developed primarily from basic data compiled by the Bureau of Labor Statistics and the Bureau of the Census. BLS data are from the Bureau's monthly establishment survey (the Current Employment Statistics survey) and the Bureau of Census data are from the Census of Manufactures and the Annual Survey of Manufactures. In concept, employee hours data from the Bureau of the Census relate to plant hours only. Employee hours data from BLS include both hours at work and hours paid for but not worked (such as paid vacation time).

In general, BLS data are the preferred source for measuring industry employment and hours because they are collected monthly and are benchmarked each year to comprehensive data from the State unemployment insurance programs. Although both BLS and the Bureau of the Census

provide data on production worker hours, neither source provides annual data by industry on nonproduction worker or all-employee hours.<sup>1</sup> Therefore, the nonproduction worker hours are estimated.

Estimates of aggregate nonproduction worker hours for the manufacturing industries are derived from published employment data and from estimates of average annual hours paid or worked per nonproduction worker. For years prior to 1968, estimates of average annual hours paid were calculated by multiplying the number of workweeks in the year by the scheduled weekly hours. Estimated hours for vacations, holidays, disability, and personal time off were subtracted from average annual hours paid to obtain an estimate of average annual hours worked. Vacation and holiday trends were based on studies by the former U.S. Department of Health, Education, and Welfare and on data from BLS surveys. Personal time off was estimated as a constant on the basis of data obtained from various sources. For 1968 to 1977, estimates of average annual hours paid and average annual hours worked were based on data collected in the BLS survey, Employee Compensation in the Private Nonfarm Economy. Because these surveys are no longer conducted, the 1977 levels of average annual hours per nonproduction worker are being carried forward until other data become available.

For the trade and services industries, measures of the hours of partners, proprietors, and supervisory workers were developed. Except for hotels, motels, and tourist courts, and beauty and barber shops, estimates were also made for the hours of unpaid family workers. Average weekly hours worked for partners, proprietors, and unpaid family workers were obtained from unpublished data collected in the Current Population Survey. Average weekly hours worked by supervisory employees were obtained from the censuses of population. Estimates for intercensal years were derived using extrapolation and linear interpolation techniques.

Estimates of all-employee hours for the manufacturing industries are derived by summing the aggregate hours for production workers and the estimated hours for nonproduction workers. Hours of all persons for the trade and services industries are derived by summing the aggregate hours for paid employees, partners, proprietors, and unpaid family workers.

The output indexes and employee hour components of the industry productivity indexes are based on data from a number of different sources, which are identified in the tables. All output per employee hour measures for 1994 are considered preliminary and are subject to revision. The in-

dexes refer to a standard reference base 1987=100, and they conform to the 1987 Standard Industrial Classification (SIC) definitions.

#### **Household Furniture and Railroads**

The hours measures for the household furniture industry and its components and for railroad transportation have been revised historically so as to be identical to the measures used in the corresponding multifactor productivity series. For the household furniture industries, BLS hours data are now used rather than data from the Bureau of the Census; for railroad transportation, hours of capitalized labor are now excluded from the measure.

### **Industry Multifactor Productivity Measures**

#### **Output**

Output measures used in the industry labor productivity measures are also used in the multifactor productivity measures. Most of the output series used in multifactor productivity measures have been revised historically to be identical to the series now used in the industry labor productivity measures. While the output series for multifactor productivity statistics had been calculated using a method similar to the one described at the beginning of this appendix, the adjustments for intraindustry transfers and for resales that had been made with economic census data were slightly different than in the new output methodology for labor productivity measures.

#### **Employee hours**

Employee hours indexes are calculated in the same way as those used in measuring industry labor productivity. The employee hours series used in most of the multifactor productivity measures in earlier versions of this bulletin have been revised historically to be identical to the series used in the corresponding labor productivity measures. (Although they were usually based on the same data, previously the two types of hours series were computed independently and differences due to rounding resulted.) As with the labor productivity measure, employee hours are treated as homogeneous and additive with no distinction made between hours of different groups of employees. The index is computed by simply dividing the aggregate employee hours for each year by the base-period total. Data sources are the same as those used in calculating employee hours indexes for the labor productivity measures.

#### **Capital**

The measure of capital input is based on the flow of services derived from the stock of physical assets. Physical capital consists of equipment, structures, land, and inventories. Financial capital is excluded. Capital services are esti-

<sup>1</sup> The term "production workers" includes working supervisors and all nonsupervisory workers (including group leaders and trainees) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping, trucking, hauling, maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with the above production operations. The term "nonproduction workers" covers all remaining employees, such as professional, technical, clerical, and supervisory.

mated by calculating capital stocks; changes in the stocks are assumed proportional to changes in capital services for each asset. Stocks of different asset types are Tornqvist-aggregated, using cost shares based on estimated rental prices to construct the weights for assets of different types.

Capital stocks are calculated using the perpetual inventory method, which takes into account the continual additions to and subtractions from the stock of capital as new investment and retirement of old capital take place. The perpetual inventory method measures stocks at the end of a year equal to a weighted sum of all past investments, where the weights are the asset's efficiency relative to a new asset. A hyperbolic age-efficiency function is used to calculate the relative efficiency of an asset at different ages. The hyperbolic age-efficiency function can be expressed as:

$$S_t = (L-t) / (L-(B)t)$$

where:

$S_t$  = the relative efficiency of a  $t$ -year-old asset

$L$  = the service life

$t$  = the age of the asset

$B$  = the parameter of efficiency decline

The parameter of efficiency decline is assumed to be 0.5 for equipment and 0.75 for structures. These parameters yield a function in which assets lose efficiency more slowly at first, then rapidly later in life.

Stocks of equipment, structures, inventories, and land are estimated separately. Individual price deflators for each asset category are constructed and used to convert the current-dollar investment to constant dollars. Industry-specific service lives are computed for each type of equipment asset for use in the perpetual inventory method.

Current-dollar values of inventory stocks are calculated for three separate categories of manufacturers' inventories: Finished goods, work in process, and materials and supplies. Inventory stocks for each year are calculated as the average of the end-of-year stocks in years  $t$  and  $t-1$  to represent the average used during the year as a whole. This is also done with equipment, structures, and land. Current-dollar inventory values for the three categories of inventories are deflated with appropriate price indexes.

Land stocks are estimated as a function of the movement in constant-dollar gross structures stocks for the given industry.

The various equipment, structure, inventory, and land stock series in constant dollars are aggregated into one capital input measure using estimated rental prices as weights. Rental prices are calculated in a manner similar to that used to calculate multifactor productivity for major sectors of the economy except that no attempt is made to incorporate the effects of indirect business taxes, for which data are lacking at the industry level.

Rental prices are expressed in rates per constant dollar of productive capital stocks. Each rental price is multiplied by

its constant-dollar capital stock to obtain current-dollar capital costs which are then converted to value shares for Tornqvist aggregation.

Industry capital indexes are developed from basic data published and maintained by the Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; the Office of Employment Projections, Bureau of Labor Statistics; and the Interstate Commerce Commission. Price indexes are derived from producer price indexes developed by the Bureau of Labor Statistics.

#### Intermediate purchases

The index of intermediate purchases input is an aggregate of separate indexes of change in real materials, services, fuels, and electricity consumed by an industry. With the exception of electricity, for which both price and quantity data are available, the above indexes are calculated by dividing annual current-dollar values by appropriate price indexes to obtain constant-dollar annual estimates. Separate price deflators for materials and fuels for each industry are constructed using detailed price and value data for individual subcomponents of each group. The aggregate deflators are divided into the current-dollar values to derive constant-dollar estimates. The constant-dollar series for each component are indexed by dividing each year's estimate by the base-period aggregate.

The indexes of change in real materials, services, fuels, and electricity are weighted together in a Tornqvist aggregation with value share weights to derive an aggregate intermediate purchases index. These weights are derived by dividing the current-dollar values of each by the total combined value of intermediate purchases, and averaging these weights at times  $t$  and  $t-1$ .

Industry intermediate purchases indexes are developed from basic data published by the Bureau of the Census, the Bureau of Economic Analysis, the Interstate Commerce Commission, and the Association of American Railroads.

#### Weights for major input components

The indexes representing quantity change for each of the three major inputs are Tornqvist-aggregated to compute the index of combined inputs. The relative weights for each year are derived from total costs for each input. All-employee labor costs, including benefits, are used for the labor weight. The sum of current-dollar values for materials, services, fuels, and electricity constitute the weight for intermediate purchases. The weight for capital is derived by subtracting labor costs and the value of intermediate purchases from total revenue. These compensation shares are averaged at time  $t$  and  $t-1$ .

### Federal Government Labor Productivity Measures

Indexes of output per employee year, output, and employee years are constructed for selected functional catego-

ries of government activity and for 255 participating organizations in 60 agencies.<sup>2</sup> In addition, indexes of compensation per employee year and unit labor costs are calculated. At the present time, these indexes cover about 69 percent (2.0 million employee years) of the Federal civilian work force.

Ideally, a productivity index should relate final outputs to their associated direct and indirect input(s), and, in fact, the output data are final from the perspective of the functional categories within which these data are classified. The outputs of one organization may be consumed wholly or partially by another Federal organization in the production of its final outputs. For example, personnel management services produced by a Federal Government organization are consumed primarily by other Federal organizations. As a consequence, all output indicators in the measured portion of the Federal Government may not be final from the perspective of a higher level of organization; for example, the entire Federal Government. Therefore, the overall statistics do not represent "Federal productivity" but, rather, the productivity changes in the weighted aggregate of the Federal organizations that are included. The measure combines the output indexes of all 255 organizations, using employee year weights. The index of this aggregate is divided by an aggregate employment index to compute the overall productivity index for the participating Federal organizations.

Through an annual collection process, most data are submitted directly by agencies to BLS, but in some cases data are obtained from secondary sources such as agency budgets and annual reports. Approximately 2,500 products and services are aggregated into output indexes by combining the quantities of each type of output using their respective base-year labor requirements as weights. These unit employee-year weights are constructed from the detailed output and input data provided by each organization. Although the weights relate to fixed periods, they are updated every 5 years. The output segments are

linked and referenced to a fiscal year 1987 base; the fiscal year is October 1 through September 30.

The organizational indexes are grouped into 24 functional categories, based on similarity of activity. Some of these categories, such as printing and duplication, are more homogeneous than others, such as general support services, which include many diverse activities. Nonetheless, these categories provide insight into the trends for the Federal Government. Although the indexes are also constructed for each participating organization, these are not published but are returned to each organization for its own use (for example, to stimulate further examination of the causes of productivity change within each organization).

Employee-year indexes are developed from agency data submissions and secondary sources. As in the labor input measures used by the Bureau to develop industry productivity measures, employee years are considered homogeneous and additive. Each employee year reflects the regularly scheduled time, overtime, and leave time of all full-time, part-time, and intermittent employees and is equivalent to 2,087 hours.

The compensation indexes include wages, salaries, and benefits including retirement, merit pay increases, incentive pay, health insurance, and the like. Data to compute the indexes are taken from agency data submissions and secondary sources. The unit labor cost index is derived by dividing the index of compensation by the index of output.

## Rates of Change

The rates of change published in this bulletin are average annual percent changes calculated using the compound rate formula:  $((X_T/X_I)^{1/n} - 1) * 100$ , where  $X_I$  is the value of an index number in year  $I$ ,  $I$  is the initial year of the period,  $T$  is the terminal year of the period, and  $n$  equals  $T$  minus  $I$ . The rates of change shown in each table indicate the first year of available data, in some cases beginning in 1947. However, due to space limitations, the industry productivity tables in this bulletin do not provide indexes prior to 1970. Indexes and average annual rates of change for time periods not shown are available on request from the Bureau of Labor Statistics.

<sup>2</sup> See list of functional categories accompanying discussion in text for definitions.

## **Appendix B. BLS Publications on Productivity and Technology**

### **How to order**

The *Monthly Labor Review* is available by subscription or single copy from New Orders, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 (\$29 a year domestic; \$36.25 foreign). Make checks payable to Superintendent of Documents.

Reprints and news releases are available free of charge, as long as the supply lasts, from the Office of Productivity and Technology, Room 2150, Bureau of Labor Statistics, 2 Massachusetts Ave., NE, Washington, DC 20212-0001 or from the Bureau's regional offices (see addresses on the inside back cover.) Electronic access to productivity data and news releases is available on the BLS World Wide Web site (<http://stats.bls.gov>).

Bulletins may be purchased from New Orders, Superintendent of Documents or the BLS Publications Sales Center, P.O. Box 2145, Chicago, IL 60690.

Papers and information regarding reports and articles published prior to 1987 are available from the Bureau's Office of Productivity and Technology.

### **Productivity trends in individual industries**

"Multifactor Productivity in the Manufacture of Refrigeration and Heating Equipment," by Paul V. Kern and Patricia S. Wilder, *Monthly Labor Review*, forthcoming.

"Improved Technology Helps Spur Productivity Gains in the Fabricated Plate Work Industry," By Jim York, *Monthly Labor Review*, forthcoming.

"Productivity Growth Improves in Housefurnishings Industry," by Robert Critchlow, *Monthly Labor Review*, March 1996, pp.3-8.

"Productivity in Retail Miscellaneous Shopping Goods Stores," by Ziaul Z. Ahmed and Patricia S. Wilder, *Monthly Labor Review*, October 1995, pp. 33-37.

"BLS Modernizes Industry Labor Productivity Program," by Kent Kunze, Mary Jablonski, and Virginia Klarquist, *Monthly Labor Review*, July 1995, pp. 3-12.

"Multifactor Productivity: Cotton and Synthetic Broadwoven Fabrics," by Mary Jablonski, *Monthly Labor Review*, July 1995, pp. 29-38.

"Multifactor Productivity in the Metal Stampings Industry," by Thomas M. Muth II and Paul V. Kern, *Monthly Labor Review*, May 1995, pp. 48-58.

"Productivity in Hardwood Dimension and Flooring," by Craig F. Saunders, *Monthly Labor Review*, October 1994, pp. 50-54.

"Productivity in Industry and Government, 1973-92," by Mary Jablonski, *Monthly Labor Review*, August 1994, pp. 49-56.

"Multifactor Productivity in Household Furniture," by Thomas M. Muth II and Edna Thea Falk, *Monthly Labor Review*, June 1994, pp. 35-46.

*Productivity and the Economy: A Chartbook*, BLS Bulletin 2431, September 1993.

"Productivity in Industry and Government, 1973-91," by Alexander Kronemer, *Monthly Labor Review*, July 1993, pp. 44-51.

"Productivity in Aircraft Manufacturing," by Alexander Kronemer and J. Edwin Henneberger, *Monthly Labor Review*, June 1993, pp.24-33.

"Industry Productivity in Natural and Processed Cheese," by Daniel J. Curtin, *Monthly Labor Review*, April 1993, pp.26-32.

"Productivity Measures for Transportation Industries," by John Duke. A paper presented at the Highway-Related Transportation Industry Productivity Measures Symposium, Arlington, VA, November 20, 1992.

"Bureau of Labor Statistics Productivity Measures for Service Industries," by Edwin R. Dean and Kent Kunze. A paper presented at the Conference on Service Productivity and Quality Challenge, Philadelphia, PA, October 23, 1992.

"Productivity in the Nuts and Bolts Industry, 1958-90," by Ziaul Z. Ahmed and Mark Sieling, *Monthly Labor Review*, October 1992, pp. 10-15.

- "Productivity Trends: Prepared Fish and Seafoods Industry," by Mark W. Dumas, *Monthly Labor Review*, October 1992, pp. 3-9.
- "Productivity in Wood Containers," by James York, *Monthly Labor Review*, October 1992, pp. 16-19.
- "Multifactor Productivity in Railroad Transportation," by John Duke, Diane Litz, and Lisa Usher, *Monthly Labor Review*, August 1992, pp. 49-58.
- "Productivity in Crude Oil and Gas Production, 1959-1990," by Brian Friedman, *Monthly Labor Review*, March 1992, pp. 9-17.
- "Productivity Measures: Industries and Government," re-print of chapter 11 of *BLS Handbook of Methods*, Bulletin 2414, 1992.
- "Productivity Trends in Selected Industries," by Charles Ardolini and Mark Scott Sieling, *Business Economics*, October 1991, pp. 26-30.
- "Multifactor Productivity in the Farm and Garden Equipment Industry," by Edna Falk and Diane Litz, *Monthly Labor Review*, June 1991, pp. 27-38.
- "Productivity in the Rubber and Plastics Hose and Belting Industry," by John W. Ferris and Virginia L. Klarquist, *Monthly Labor Review*, July 1990, pp. 26-31.
- "Productivity Trends in the Photographic Equipment and Supplies Industry," by Clyde Huffstutler and Stuart Kipnis, *Monthly Labor Review*, June 1990, pp. 39-49.
- "Productivity Trends in Scrap and Waste Processing," by Mark Scott Sieling, *Monthly Labor Review*, April 1990, pp. 30-37.
- "Productivity in the Retail Auto and Home Supply Stores Industry," by Patricia S. Wilder, *Monthly Labor Review*, August 1989, pp. 36-39.
- "Multifactor Productivity Advances in the Tires and Inner Tubes Industry," by Diane Litz and Linda Moore, *Monthly Labor Review*, June 1989, pp. 19-27.
- "Multifactor Productivity Slips in the Nonrubber Footwear Industry," by John Duke and Lisa Usher, *Monthly Labor Review*, April 1989, pp. 32-38.
- "Productivity in Agricultural Chemicals Industries," by Horst Brand and Kelly Bryant, *Monthly Labor Review*, March 1989, pp. 21-27.
- "Productivity in the Carburetors, Pistons, and Valves Industry," by John W. Ferris and Virginia L. Klarquist, *Monthly Labor Review*, February 1989, pp. 43-46.
- "Patterns of Productivity Change in Men's and Boys' Suits and Coats," by Mark Scott Sieling and Daniel Curtin, *Monthly Labor Review*, November 1988, pp. 25-31.
- "Variety Stores Experience Shifting Trend in Productivity," by James D. York, *Monthly Labor Review*, October 1988, pp. 30-33.
- "Productivity Growth Slows in the Organic Chemicals Industry," by Clyde Huffstutler and Barbara Bingham, *Monthly Labor Review*, June 1988, pp. 44-51.
- "Retail Hardware Stores Register Productivity Gain," by Patricia S. Wilder and Virginia L. Klarquist, *Monthly Labor Review*, May 1988, pp. 39-43.
- "Productivity Trends in the Cotton and Synthetic Broadwoven Fabrics Industry," by Mark W. Dumas and J. Edwin Henneberger, *Monthly Labor Review*, April 1988, pp. 34-38.
- "Productivity Trends in Department Stores, 1967-86," by Brian L. Friedman, *Monthly Labor Review*, March 1988, pp. 17-21.
- "Productivity Shows a Decline in Automotive Repair Shops," by John G. Olsen and Richard B. Carnes, *Monthly Labor Review*, March 1988, pp. 22-26.
- "Productivity Gains Lukewarm for Makers of Nonelectric Heating Equipment," by John W. Ferris and Virginia L. Klarquist, *Monthly Labor Review*, March 1988, pp. 27-32.
- "Productivity in Industrial Inorganic Chemicals," by Horst Brand and Ziaul Z. Ahmed, *Monthly Labor Review*, March 1988, pp. 33-40.
- "Performance of Multifactor Productivity in the Steel and Motor Vehicles Industries," by Mark K. Sherwood, *Monthly Labor Review*, August 1987, pp. 22-31.
- "The Mining Machinery Industry: Labor Productivity Trends, 1972-84," by Barbara A. O'Neil, *Monthly Labor Review*, June 1987, pp. 31-35.
- "Productivity Trends in the Furniture and Homefurnishings Stores Industry," by Arthur S. Herman and J. Edwin Henneberger, *Monthly Labor Review*, May 1987, pp. 24-29.
- "Two Decades of Productivity Growth in Poultry Dressing and Processing," by Ziaul Z. Ahmed and Mark Sieling, *Monthly Labor Review*, April 1987, pp. 34-39.
- "Retail Liquor Stores Experience Flat Trend in Productivity," by James D. York, *Monthly Labor Review*, February 1987, pp. 25-29.

## **Productivity trends in government**

*Description of Output Indicators by Agency for the Federal Government, Fiscal Year 1992.* Bureau of Labor Statistics, March 1994.

*Description of Output Indicators by Function for the Federal Government, Fiscal Year 1992.* Bureau of Labor Statistics, March 1994.

*Productivity Statistics for Federal Government Functions, Fiscal Years 1967-94,* Bureau of Labor Statistics, March 1996, Report 906. Summary indexes of output per employee year, output, employee years, and other related data for 24 functions and the total measured portion of the Federal government.

*Federal Government Productivity Highlights, Fiscal Years 1967-94,* Bureau of Labor Statistics, February 1996, Summary 96-3. Summary indexes of output per employee year, output, employee years, and other related data for the Federal Government.

"Selecting Measures for the Government Performance and Results Act" by Darlene Forte and Arthur Young. A paper presented at the third International Symposium on Productivity and Quality with a Focus on Government, sponsored by the Institute of Industrial Engineers, February 1995.

"Accounting for Productivity Change in Government," by Edwin R. Dean. A paper presented at the Workshop on Modernizing the Government Sector of the Economic Accounts, sponsored by the Committee on National Statistics of the National Research Council, Washington, D.C., November 18-19, 1993.

"Using Productivity Measures as a Foundation for Performance Measurement," by Darlene Forte. A paper presented at the Second International Symposium on Productivity and Quality Improvement with a Focus on Government, Washington, D.C., September 1993.

"Measuring Federal Government Productivity," by Darlene Forte. In *Handbook for Productivity Measurement and Improvement*, William F. Christopher and Carl G. Thor, editors, Productivity Press, January 1993.

"The Challenge: Measuring Productivity in the Government," by Darlene Forte. In *Productivity and Quality in Government*, Industrial Engineering and Management Press, February 1992.

"Public Sector Productivity Measurement: U.S. Federal Government Agencies," by Jerome A. Mark. A paper presented at the European Association of National Productivity Centers Conference, Athens, Greece, October 5-8, 1988.

"Productivity Measurement as a Tool in Federal Management Improvement," by Charles W. Ardolini. Testimony before the U.S. Subcommittee on Civil Service, Post Office, and General Services of the Committee on Government Affairs, September 19, 1984.

## **Concepts and techniques of productivity measurement**

"Improvements to the Quarterly Productivity Measures" by Edwin Dean, Michael Harper, and Phyllis Flohr Otto, *Monthly Labor Review*, October 1995, pp.27-32.

"Estimating Savings and Growth Functions in Developing Economies: A Simultaneous Equations Approach," by Aklilu A. Zegeye, *International Economic Journal*, Autumn 1994.

"Difficulties in the Measurement of Service Outputs," by Mark Sherwood, *Monthly Labor Review*, March 1994, pp. 11-19.

*Labor Composition and U.S. Productivity Growth, 1948-90,* BLS Bulletin 2426, December 1993.

"Productivity Measures Under a Disequilibrium Framework," by Aklilu Zegeye. Discussion paper presented at the Eastern Economic Conference, Washington, DC, March 19-22, 1993.

"The Cyclicalities of Productivity Measures: Are There Increasing Returns?" by Michael J. Harper and Susan G. Powers. A paper presented at the Society of Government Economists, Allied Social Sciences Meeting, January 1993.

"Bureau of Labor Statistics Productivity Measures for Service Industries," by Edwin R. Dean and Kent Kunze. A paper presented before the International Productivity Symposium V, Oslo, Norway, June 15-18, 1992.

"High-Tech Capital Formation and Labor Composition in U.S. Manufacturing Industries: An Exploratory Analysis," by Ernst Berndt, Catherine Morrison, and Larry Rosenblum, NBER Working Paper No. 4010, March 1992.

"Stocks of Knowledge, Research and Development, and Productivity Growth," by Leo Sveikauskas and James Adams. A paper presented at the Society of Government Economists, Allied Social Sciences Meeting, January 1992.

"Productivity Measurement in Service Industries," by Edwin R. Dean and Kent Kunze. In *Output Measurement in the Service Sectors, Studies in Income and Wealth*, Vol. 56, Zvi Griliches, editor, University of Chicago Press for the National Bureau of Economic Research, Chicago, 1992.

"Cyclical of Labor Productivity Measures," by Lawrence Fulco, Michael J. Harper, and Susan G. Powers. A paper presented at the Atlantic Economic Association Meeting, October 1991.

"Neoclassical Capital Measures Using Vintage Data: An Application to Breeding Livestock," by V. Eldon Ball and Michael J. Harper. A paper presented at the National Bureau of Economic Research Summer Institute, July 1990.

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